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ABSTRACT

Grades awarded to secondary school students in the Cleveland (Ohio) public schools were analyzed to determine relationships between grades and selected school climate variables in a desegregated urban school district. Failures or F grades and schoolwide non-promotion rates were both related to rates of class attendance and school suspensions. Over three fourths of school failure rates was explained by the attendance rate, suggesting that improving school attendance may reduce failures. The proportion of white students in a school appeared to be a factor related to the failure rate; as the proportion of whites increased (numerically the minority), the failure rate decreased. This finding supports the argument for desegregation. Schools with high failure rates significantly differed from those with low failure rates on such variables as attendance rates, non-promotion rates for the total population, for blacks and for whites, reading test scores, the discrepancy between minority reading scores and white reading scores, suspension rates, average grades by subject, and percentage of each grade awarded. Results indicate a need to introduce changes, such as improvement of class attendance, maintenance of racial balance, and establishment of performance standards in these schools. (MJL)

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GRADING ISSUES IN A DESEGREGATING SYSTEM

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INTRODUCTION

Grading continues to be a controversial issue in education. There are as many perspectives about grading practices as there are persons involved in the process. In an urban public school district undergoing desegregation, grading issues are receiving renewed scrutiny consistent with the improvement of educational opportunity and quality.

The United States District Court, Northern District of Ohio, ordered the desegregation of the Cleveland City School District in the matter of Reed vs. Rhodes by its Remedial Court Order of February 6, 1978. The Remedial Order mandated a series of nine educational components as ancillary relief to correct effects of prior segregated schooling and to assure an effective transition to a racially neutral, nondiscriminatory, unitary school system. The Court proposed educational components with these major purposes:

1. To remedy the academic effects of prior segregation;
2. To ensure that existing and future programs are administered in a nondiscriminatory fashion;
3. To maintain a secure, integrated school environment in which the rights of all students are protected; and
4. To guarantee that Court-ordered educational provisions are successfully implemented.[1]

As can be seen, the Remedial Court Order, with all the power of the Federal Court, provides impetus toward re-examination and reconstruction of all aspects of district practice. Student assessment with all its ramifications of educational equity is a critical process affecting all teachers

1. Reed vs. Rhodes, C73-1300, February 6, 1978.

and students. Grades, the products of this assessment, portray students' passage through the educational system. Grades, for better or worse, steer their passage to post-secondary opportunities.

Implementation of the desegregation plan in Cleveland has proceeded through three phases with students being reassigned in various clusters of schools beginning in September 1979 and continuing in March 1980 and September 1980. This study in its review and analysis of grading information generated from student assessment in the school district's secondary schools utilizes data from the 1980-1981 school year. During this school year, grading information had been computerized and all students had been reassigned to desegregated settings according to the Court-approved desegregation plan.

OBJECTIVES

This paper presents findings from analysis of grades awarded to secondary school students in grades seven through 12. Thirty-nine secondary schools, both junior and senior high, are represented. Grades assigned in the major academic subjects--English, mathematics, science and social studies, are included in the study.

This study is guided by four objectives:

1. To describe differences in grading practices between secondary schools, major academic subjects and grade levels during the school year 1980-1981;

2. To relate differences in grading practices to indicators of school climate such as suspension rates, incidences of corporal punishment and attendance of students;

3. To examine literature on grading policies and standards as a background for the state of the art; and

4. To recommend actions for improvement in grading policies and consistent with improvement of educational opportunity and quality.

SETTING

The setting for this study, Cleveland, is a large, northern urban school district currently implementing a Court-ordered desegregation plan. The final stage of this desegregation plan began during the 1980-1981 school year. During that year, the average daily membership was 83,488. The racial distribution of students included 67% Black, 28% White, 4% Hispanic, .6% Asian and .3% American Indian. The school district operates a variety of grade organization plans in its elementary, junior and senior high schools. There are three elementary grade arrangements: grade one through grade three, grade four through grade six and grades one through six. All elementary schools have kindergartens, regardless of grade organization. Junior high schools, with one exception, are organized on a grade seven through grade nine basis. Senior high schools comprise grades 10 through 12. One senior high school, however, includes grades nine through 12 while the lone junior high school enrolls only grades seven and eight. Two schools for handicapped students and nine district-wide magnet schools provide both elementary and secondary grades.

Grades are assigned four times during the school year. The final grade represents the official grade for the course. During the 1980-1981 school year, the computer record of final grades showed a total of 227,524 grades. These data provided the information for this study. The grades were distributed as follows:

Grade	No. Assigned	Percent*
A	27,380	12.2
B	34,200	15.5
C	43,048	19.4
D	42,217	18.8
F	67,105	28.3
I,W,O*	13,574	5.9
Total	227,524	100.1 (*rounded)

*Incomplete, Withdrawn and Other

PERSPECTIVES FROM THE LITERATURE

A recent literature search utilizing sources in the Educational Resources Information Center (ERIC) identifies 202 citations specifically related to grading, but no counterpart for this study. Few of the studies systematically assess existing conditions using compilations of actual grading data. Rather, the major themes in the ERIC literature involve such topics as state of the art papers, attacks on and defenses of grading, proposals for alternative grading systems, studies of grade inflation, research on the effectiveness of grades as predictors, and effects of grades on student motivation. In addition, a substantial body of textbook literature provides information about grading procedures for use in education courses. (For example, Ahmann and Glock [1981], Ebel [1979], Hills [1981] and Payne [1974] among many.)

Two purposes guide the literature review for this effort: to consider the history of grading in the schools and to describe current grading practices. This approach appears relevant to this study, particularly if policy implications are to be developed as a result of this effort.

An extensive body of literature provides an historical perspective for this study. This perspective reveals a continuing controversy about grading and a limited prospect for satisfactory resolution in the immediate future. Other areas of the literature that are of interest include reports about the diversity of grading practices, research on teacher expectancy, proposals for alternative grading practices and reviews of teachers' needs in measurement and evaluation.

Controversy is a dominant theme in the history of grading issues. Warren (1975) describes the grading controversy as one which emerged soon after the turn of the century. It has produced little learning with which to resolve the issues in dispute. Warren believes a major source of confusion

arises from the foggy distinction between evaluating a student's performance and reporting the results of that evaluation in the form of a grade. He notes:

> This confusion between evaluation and grading is the source of many vehement assertions in the literature that grading is essential to student learning. Evaluation is essential; grading is not.[1]

In concluding his definitive review of the continuing controversy in grading, Warren states:

> The most promising way to get off the grading merry-go-round is to focus studies of grades on their several purposes and on alternative ways of accomplishing them. If the questions to be pursued are selected and phrased to be critical to both sides of the controversy rather than simply confirming a point that is not in serious dispute, some advance may be made. But if grades do indeed serve unacknowledged functions, such as easing social conflict or giving insecure or punitive faculty members a device to controlling students, even sound well-executed studies will not resolve the controversy.[2]

Ebel (1979) characterizes the grading controversy as one in which "shifting winds of educational doctrine blow unsteadily even at the same time."[3] This troublesome situation arises, in his opinion, from the problems of measuring educational achievement, the tendency for grading practices to be issues in disagreements about differing educational philosophies or doctrines and the requirement for teachers to move from their preferred role as guides and counselors to judges of student performance.

Contributing considerable heat to the vehement arguments against current grading practices are reviews and position papers promulgated by such organizations as the National School Public Relations Association (1972), the Association for Supervision and Curriculum Development (1976) and the National Education Association (1977). The 1973 Boston Conference on Grading

1. Warren, J. R. The continuing controversy over grades. ERIC Clearinghouse on Tests, Measurement & Evaluation, Educational Testing Service, Princeton, N. J., 1975, p. 8.
2. Ibid., p. 10.
3. Ebel, R. L. Essentials of Educational Measurement. Prentice-Hall, Inc. Englewood, Cliffs, N. J., 1979, p. 228.

Alternatives proposes major changes in grading procedures.

Although the NSPRA takes no stand for or against a particular grading policy or program, it describes traditionalism in grading as "still entrenched in many school districts."[1] Simon and Bellanca (1976), editors of the ASCD review, approach what they term as the "mythology of grading" by providing a primer of alternatives to grades, posing four criteria for whatever is done in the name of education and the problem of grading:

> 1. Are the objectives sought by whatever is done the truly important ones?
>
> 2. Is the device used the best way of achieving the objectives we have decided upon?
>
> 3. What is the effect on the teacher?
>
> 4. Finally, the effects on the student must be considered in whatever we do in assessing classroom operations.[2]

The NEA effort (1977) portrays what is considered to be the heart of the dilemma:

> There is no way that a generalized symbol, be it an A, a C, or a Pass can fairly represent a compromise among class goals, individual ability balanced against achievement, teacher expectations, and the accompanying multitude of values, feelings, and beliefs which comprise a classroom. Without the compromise, the myth of grading objectively cannot represent reality. The objective grade is a myth.[3]

By and large, the 18 articles appearing in the 1973 Conference on Grading Alternatives proceedings demand reform of traditional grading practices. Typical of the tone of these presentations is this excerpt:

1. Grading and reporting. National School Public Relations Association, Arlington, Va., 1972, p. 5.
2. Simon, S. B. and Bellanca, J. A. Degrading the grading myths: A primer of alternatives to grades and marks. Association for Supervision and Curriculum, Washington, D. C., 1976, p. 8-9.
3. Bellanca, J. A. Grading. National Education Association, Washington, D. C., 1977, p. 15.

> One of the ugliest words you hear in school is that conglomerate "Whadjaget?"....For too many students and teachers whadjaget is what schooling is all about these days; for me, the grading system is the most destructive, demeaning, and pointless thing in education.[1]

Ebel (1979) proposes another side of the coin in his view that grading procedures are about as good or as weak as the teachers who apply them. The real need is not for some new system, according to Ebel, but for teachers to improve their capabilities in this area. In defense of grades, Ebel advocates that "the cultivation of wisdom is to work to improve them," that "measurements and reports of achievement are essential in education" and that "no better alternative to marks seems likely to appear."[2]

Ebel's opinion is representative of many major writers in educational measurement. These writers concur that grades are an essential element in the educational process and that there is a critical need to improve teachers' competencies in grading. They contend that the tendency of teacher training to ignore this very important part of a teacher's task is a major contributing factor to the faulty practices that abound.[3]

Another factor which compounds the problems associated with grading is the variety of grading practices and evaluation standards utilized by teachers. Using data from the National Longitudinal Study of the High School Class of 1972, Pinchak (1974) found that approximately 68% of the schools used letter grades only, about 16% used percentages and 5%, a combination of letter grades and percentages. Other types and combinations as well as missing data accounted for the remaining schools. That grading practices vary not

1. Simon, S. "Personal search for a grade," The 1973 Boston conference on grading alternatives. Values Associates, Amherst, Mass., 1973, p. 79.
2. Ebel, R. L. Op. cit., p. 309-310.
3. See Airmann and Glock (1981), Ebel (1979), Hills (1981) and Payne (1974) for example.

only between regions of the country, but from school district to school district is affirmed in Kunder and Porwoll (1977). These authors present results of a survey in which 341 districts responded about their reporting and grading practices. Kindergarten, where checklist grading is predominant, is the only level at which letter grading is not the most common method of reporting student progress.

Other studies document the variety of approaches typically utilized by teachers in grading which adds to the complexities at play in the grading process. Wahlstrom and others (1977) in their survey of Canadian principals and teachers identify differences in teacher grading practices. For example, academic skill area teachers, especially English and mathematics, use more formal and varied methods of evaluation while non-academic skill area teachers report a greater number of difficulties associated with assessment. All teachers indicate a desire for more standardized instruments and for more training in the area of assessment procedures.

Grading practices in science classes, when compared with other academic subjects, have been found to be harsh or severe. Bridgham and Welch (1972) reveal that severity of grading was associated with diminished enrollment in physics and that an increase in science enrollments would follow an effort to put science grades on a "par" with grades in other academic subjects.

Terwilliger (1966) demonstrates that teachers approach the task of grading in a variety of ways, employ different standards from one type of performance to the next and assign grades largely in terms of absolute standards. Most teachers show little awareness of the relative difficulty level and discriminability of the performance upon which they base their marks. Teachers, in this study, are seen as apparently assigning grades according to a global evaluative judgmental process which may or may not

be related to objectively measured ability. Despite the differential grading practices among teachers, Stake and others (1978) note in their case studies that teachers, unlike the measurement specialists who criticize the inadequacy of grades, consider grades as fixed and part of the system, "causing some problems but largely necessary, compatible with the student's and parent's concern about scholastic achievement, and consistent with the administrator's demand for proper ledgers."[1] Parents also appear to have preferences in grading. Gilbert and Ellis (1972) report that parents prefer a combination of report cards and teacher-parent conferences. Parents of elementary students preferred, in order, symbols, letter grades and teacher comments, while parents of secondary students preferred letter grades, percentage marks and teacher comments.

If grading practices differ from teacher to teacher, measurement specialists and other education professionals by no means agree on the grading issues according to Harris (1973) and Gephart (1977). Harris found that the degree of agreement on selected measurement issues to be quite limited. He questions whether school practitioners should put into effect practices which the great majority of measurement specialists did not recommend. In replicating the Harris survey, Gephart concludes that experience turns "black and white judgments into shades of gray" when responses of readers of the Phi Delta Kappan are compared with student teachers' responses. However, Kappan respondents showed less consensus on the issues than did the student teachers. The student teachers are "also less supportive of and less rejecting of individual measurement issues."[2]

1. Stake, R. and others. Case studies in science education. Center for Instructional Research and Curriculum Evaluation and Committee on Culture and Cognition, University of Illinois, Urbana, Ill., January 1978, p. 15-19.
2. Gephart, W. J. "Editor, Take a Test on Taking a Test on Grading," Phi Delta Kappan, 58, June 1977, p. 767.

Teacher application of grading procedures, as a function of the expectancy of the teacher, provides another dimension to the complexities of the appraisal process as it is utilized in the schools. Borich and Peck (1976) tested predictions in the literature that certain teacher practices may be at least partially responsible for the difficulty that disadvantaged children experience in school and particularly frustrating to minority boys and girls in ways that result in scholastic inefficiency. They report girls receive higher classroom grades than boys and conclude that variables other than aptitude and standardized achievement e.g., motivation, rapport with teacher, conformity to teachers' attitudes, are correlated with grade point average more highly for females than for males.

Cooper (1979) in a review of expectation research cites numerous expectancy studies which establish teacher expectation effects although such effects do not occur invariantly. Expectation effects in classrooms seem to depend on style differences among teachers. Cooper proposes a causal process theory which shows that variations in student ability and background lead teachers to form different expectations for student performance and that teachers use different evaluative feedback with high-expectation students than they do with low-expectation students. Such differences, in Cooper's model, may lead to less persistence and more failure on the part of the lows than highs, thus sustaining poorer performance.

Just as teachers' perceptions are operating in very complex ways in the grading process, so are students' expectancies. Belief in personal efficacy is a prerequisite for achievement motivation. For achievement motivation to be maintained, it is necessary that students believe they personally influence their academic outcomes (Atkinson 1964). Mitchell (1979) investigated the use of causal attribution and self-assessment variables in

accounting for grade point average variance and identifying the causes for grades received as perceived by high school students. Results show that the causal attribution and self-assessment variables account for significant amounts of grade point average variance; that although students emphasize effort, interest, teacher attitude and academic ability as most important overall, it is luck and ability that contribute most to the grade point average relationship; and that there is the unfortunate tendency for low achieving students to rank luck as a more important causal factor for grades received than do high achieving students.

It is clear, as Hoge and Luce (1979) report, that simple relations do not obtain between behaviors and achievement. Although further investigation is necessary to refine behavioral categories, improve reliability of measurement, investigate criterion measures and to utilize more advanced statistical procedures, the authors conclude that the data on relations between classroom behavior and academic achievement can be of great practical significance. Strategies for dealing with underachievement and the potential for early identification of achievement problems render such investigations appealing. As a context for the assessment of students, such findings could enhance learning opportunities for students.

A burgeoning body of literature demands and proposes alternatives for traditional grading practices, if not their elimination from the educational process. Deutsch (1980) contends that there are serious problems associated with competitive grading systems and would substitute a more cooperative system of education where each student stood to gain rather than lose by the achievements of other students. A cooperative system would de-emphasize comparative evaluations. It would provide individualized, particularistic feedback aimed at helping individual students and groups of students to function effectively both as individuals and as groups in

achieving educational objectives.

Recommendations for alternative grading methods comprise a range of procedures. Critics of traditional methods propose performance sampling, criterion-based evaluation, holistic scoring procedures, contract grading, weighted grading, standardized grading units, multi-factored grading, student conferences, observational methods and anecdotal methods. In specialized areas such as typing where psychomotor skills are involved and in office skills classes, simulation techniques for rating student performance are proposed.[1] Proponents of grading alternatives view such systems as a means to achieving a classroom climate conducive to supportive interaction of student and teacher. Such reporting procedures for any school or school district would be determined only after careful study of the needs and philosophy of the educational process as Warner (1978) recommends.

To respond to common concerns about the narrow accountability ethos of the early '70s and to share what was believed to be more sensible means of both documenting and assessing children's learning, the North Dakota Study Group on Evaluation proposes use of observation and description in a series of monographs. One of the series, Carini (1975), describes observation theory as a model for assessment of student learning; another in the series, Engel (1975), proposes documentation as an alternative and "better possibility for obtaining useful evaluation data since it can be better correlated with the goals and contents of the program."[2] The Engel monograph presents a collection

1. Examples of recommendations for grading alternatives may be found in Bailey (1973), Book and others (1978), Ediger (1975), Galvez (1975), Guinn (1978), Hartman (1978), Hassencahl (1977), McLean (1978), Nemecek (1978), Platt (1978), Rauch (1979), Shinn (1979), Siegel (1979), Stewart (1975) and Sycamore (1978).
2. Engel, B. S. A handbook on documentation. North Dakota Study Group on Evaluation, Grand Forks, N. D., February 1975, p. 1.

of checklists, anecdotal notes, sociograms, rating sheets, conference notes, schedules, interview notes, photographs, classroom floor plans and work samples. Engel details some 60 types of materials related to the child, classroom and institution. The documents are considered as being in four categories--verbal, summary, diagrammatic and illustrative, all of which, according to Engel, can end up in a binder or folder.

Unfortunately, few of these efforts adequately examine the reliability and validity issues in the recommended alternatives. Measurement specialists, writing from the point of view that grading is essential to the educational process, recommend improvement of traditional grading systems with an eye to the reliability and validity issues involved. Ebel (1979) recommends "systematic procedures" emphasizing provisions for improving grade reliability and discrimination. In his opinion, each school district and school within the district must develop a grading philosophy and the methods that best fit the needs and circumstances involved. Gronlund (1976) explains norm-referenced and criterion-referenced grading as exemplary systems. He considers that no grading and reporting system is likely to be equally satisfactory from one school to another. He offers six principles for developing a multiple grading and reporting system: that it be guided by the functions to be served; developed cooperatively by parents, pupils and school personnel; based on a clear statement of educational objectives; based on adequate evaluation; detailed enough to be diagnostic and yet compact enough to be practical and supplemented by parent-teacher conferences, as needed.

A final area of the literature which has relevance to this study deals with teachers' needs in measurement and evaluation. Rudman and others (1980) in their review covering approximately sixty years of efforts report

that the literature is uneven in quality, filled with inconsistencies and difficult to find in regular sources. They report that there is considerable reason to believe that teachers have limited knowledge about fundamental measurement concepts. Despite their need for instruction, it appears that inservice and preservice programs have been limited in developing teacher competency in this area. As part of a research and development program which included the Rudman effort, The Data Box has been developed. As an instructional package, it is an integrated set of materials designed to have teachers investigate the use of assessment data in a variety of instructional decision-making situations. With six components: a taxonomy, a set of vignettes, a document file, a memo pad, an interpretive manual and an applications manual, the components revolve around the vignettes which are based on every day classroom events.[1]

In summary, the literature indicates long-standing disagreement about basic grading practices in education. It describes inconsistent practices in grading. It offers no ready-made solution to the grading dilemma.

Many of the proposals for alternatives to traditional grading practices, although attempting to humanize the student assessment process, give scant attention to issues of reliability and validity of their systems. Typically, many advocates for alternatives ignore the linkage of assessment with instruction, if not exhibiting considerable skepticism of the educational assessment process in particular.

Given the general needs of teachers to upgrade their measurement competencies as reported in the literature, it does not seem likely that massive improvement of grading practices is likely possible in the immediate

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1. Wanous, D. S. and Mehrens, W. A. "Helping teachers use information: The Data Box Approach." Measurement in Education, 12, Winter 1981, p. 2.

future without systematic inservice. Additionally, concerted improvement efforts will require consensus building by school level and district level staff to accept and promote a grading philosophy. There is a need to make instructional decisions less intuitive and more rational.

Measurement specialists do have some sound advice worth considering when operationalizing a grading philosophy, be it an "A, B, C" or "documentation" system. Confounding the problems of inconsistent practice in grading and disagreement about solutions is the process of desegregation and its effect upon minority students' performance. If grading practices in desegregation schools lack validity, are based upon inappropriate use of assessment or reflect lowered expectancies on the part of the staff, educational quality and equal opportunity can be seriously impaired.

METHOD

The initial phase of this study addressed the major question of relationship between student grades/failure and school climate variables such as suspension rates, corporal punishment rates, student attendance rates and standardized achievement scores. In addition, the investigation focused on relationship of the non-promote rate and these climate variables. A set of correlation coefficients including tests of significance were computed between and for each pair of variables in the data list as were selected descriptive statistics such as mean and standard deviation for each variable.

The second phase of this study sought to develop an equation for predicting the school-wide failure rate and the school-wide non-promotion rate. Separate predictive equations were developed utilizing a set of school climate indicators as predicator variables. Step-wise multiple regression was utilized to complete this phase.

Phase three of this study sought the answer to the following question: Will the 25 percent of the schools displaying the greatest student rate vary significantly from the 25 percent of the schools displaying the smallest student failure rate, in terms of such climate indicators as suspension rates, incidence of corporal punishment and attendance levels? A series of t-tests was used to test for significant differences between high and low student failure-rate schools in terms of each of the other variables on the list.

Supplementary findings explored grading and promotion rate differences by grade level, by building level and major subject area.

Most of the needed grade data for this study was already assembled in several different computer readable data bases for the school year 1980-1981 for the entire school district. Unobtrusive measures as represented by student attendance and the like were available through required court status reports also in the computer data base for the school year 1980-1981.

FINDINGS

Results for each of the three phases of this study and supplementary findings follow.

Phase One: Determining Relationship Between Selected School Variables and F Grades and Non-Promotes

Phase One of the study correlated a variety of selected school variables with the school-wide rate of F grades given and the school-wide rate of non-promotes to determine the significant relationships between the variables involved.

The selected school variables included:

- teacher absenteeism rate;
- school poverty rate as established by percent of students' receiving free and reduced price lunch;

- average reading comprehension post-test score and average gain scores for minority, white and total student group drawn from results of the Comprehensive Tests of Basic Skills, Reading Comprchension;
- proportion of F's given in each of the four major subject areas (English, mathematics, science and social studies);
- average daily attendance rate;
- suspension rate for each of five reasons shown to be the major reasons for suspension plus a composite rate;
- age advancement rate according to social promotion policy of district;
- proportion of each letter grade given plus "other" grades (which includes withdrawn, incomplete and miscellaneous categories); and
- school-wide minority to white differences in reading comprehension post-test and gain scores.

The results are presented in Table 1.

Insert Table 1 here.

Of the thirty-six variables presented in correlation with each of the two variables of primary interest (i.e., failure and non-promote rate), several relationships are significant. Of significant relationship ($p < .01$) to failure rate are the following: average daily attendance rate; proportion of F's given in science, English, mathematics and social studies; proportion of A's, B's, C's and D's given; average CTBS reading comprehension post-test NCE score for total group and for minority group; non-promote rate for total student group, for non-black "other" student group and black student group; and suspension rate for reason four which was failure to attend school/classes on time.

Letter grades on a school-wide basis, particularly the F grade, appear to be highly correlated to attendance and substantially related to

suspension for failure to attend school/classes on time. These relationships indicate that the higher the student attendance rate, the lower the proportion of F grades; while the higher the suspension rate for reason four, the higher the proportion of F grades.

As can be seen from Table 1, the total non-promote rate in a school is significantly related ($p < .01$) to the following variables: proportion of F's given in English, science, social studies and mathematics; proportion of A's, B's, C's and "other" grades given; black and non-black "other" non-promote rates; average daily attendance rate; and school-wide minority to white difference in post-test reading comprehension.

Grades and variables related to the prediction of grades (i.e., attendance) appear most highly correlated with the school-wide non-promote rate. It was also found that as the reading comprehension discrepancy between minority and whites increased in a school, non-promotes significantly increased.

In general, the same variables were significantly correlated with the failure rate and the non-promote rate; but the magnitude of the correlation coefficients computed for failure rate tended to be higher than for the non-promote rate. Thus, more of school failure rate was explained by way of these selected variables, than for the school-nonpromote rate.

Phase Two: Predicting School Failure and Non-promote Rates Using Multiple Regression

Predictions of the two dependent variables (school-wide failure rate and non-promote rate) were done using a set of conceptually non-redundant predictor/independent variables through step-wise multiple regression techniques. This technique selects each successive predictor variable in terms of which one of the remaining predictor variables has the largest squared partial correlation with the dependent variable. The set of predictor variables used included:

- average daily attendance rate;
- proportion of whites in school;
- teacher absenteeism rate;
- poverty rate;
- school-wide average post-test reading comrehension score;
- school-wide average reading comprehension NCE gain score; and
- suspension rates for five different categories of suspension.

The multiple regression coefficient achieved for school-wide proportion of F grades given using the full set of predictor variables was a very substantial .931, which explained 86.7 percent of total variance. The set of predictor variables, in the order of their entry, are as follows:

average daily attendance; proportion of whites in school; suspension rate for reason 5, which was disruption of entire school; suspension rate for reason 1, which was failure to comply; suspension rate for reason 4, which was failure to attend school/classes on time. The remaining five predictor variables in the equation contributed less than an additional .2% of explained variance each and less than .4% taken together. (See Table 2 for more detail.)

Insert Table 2 here.

The rate of suspensions for reason 3, which was failure to attend all classes, was omitted from the equation because of its insignificant contribution to explained variance. Of particular note, is the finding that over three-fourths of school failure rate can be explained in terms of attendance rate. From this finding it is clear that strategies for enhancing

each school's average daily attendance is in order as a method for reducing the failure rate. Students must be in school to learn; and they must learn to pass their courses. Secondarily, but relatedly, the significance of suspension rates (and positive correlation) to failure rate suggests that efforts must be made to reduce negative student behaviors which lead to suspensions, and strategies must be developed which will lead to more constructive student behaviors and thus, in the composite, a more positive school climate. The proportion of white students in a school also appears to be a factor which is significantly related to the failure rate. As the proportion of white students increases (they are numerically the minority), the failure rate decreases. This finding is an argument in favor of desegregation, and it, moreover, suggests that optimum desegregation in terms of reducing the failure rate is to approach achieving inter-ethnic group parity with respect to the number of white and minority students.

Since a strong case could be made for arguing that school average CTBS Reading Comprehension post-test and gain scores are concurrent measures with F's given in a school, it was thought to be useful to delimit the list to only those predictor variables clearly antecedent (although not necessarily controllable), as well as combine all suspensions into a composite suspension rate for reasons of parsimony/simplicity, and rerun the step-wise multiple regression analysis on this basis. The resulting multiple regression coefficient was almost as large at .926, giving an R^2/total explained variance value of .857. This compares with .931 and .867, respectively, when using the more extensive predictor list. For this second step-wise multiple regression solution, the variables, in the order of their entry into the equation (along with their simple Pearson r and their contribution to explained variance) are as follows: average daily attendance, proportion of white students in school, poverty rate, rate of suspensions for all reasons,

and teacher absenteeism rate. The generalizations drawn from this more parsimonious model are substantially the same as for that solution with the more extensive predictor list. Table 3 contains more detail.

Insert Table 3 here.

A comparable set of analyses were run using the school non-promote rate as the dependent variable. The same sets of predictor variables were used. The school failure rate was not included in the list because of its concurrent and somewhat tautological nature with respect to the non-promote rate, as dependent variable. Using the larger list of predictor variables (including the suspension rate for each of the five reasons, as well as the CTBS Reading Comprehension NCE post-test and gain scores), a solution was achieved yielding a multiple regression coefficient of .898, and an R^2/total explained variance value of .806. The predictor variables, in the order of their contribution to the predictive equation, are as follows: CTBS Reading Comprehension gain score, average daily attendance rate, suspension rate for reason 2, which was fighting, hitting and pushing; proportion of whites in the school, suspension rate for reason 4, which was failure to attend school/classes on time, poverty rate and teachers' absenteeism rate. Each of the three remaining types of suspension rates (failure to attend all assigned classes, disruption of entire school, and failure to comply) contributed less than .2% of additional explained variance. Table 4 presents more statistical detail.

Insert Table 4 here.

The school-wide average CTBS Reading Comprehension post-test NCE

was dropped from the final solution because it did not significantly add to explained variance. In this analysis, the most important variable is the reading comprehension gain score and, as used here, is a measure of academic growth and represents a school-wide dynamic. This can be compared to the post-test only measure of reading comprehension, which, in contrast, is simply a measure of how the school stands at the end of the year according to a national norm, irrespective of whether or not the average student in that school has been gaining or regressing in relative position with respect to other students in general, who were beyond that school during the 1980-81 school year under investigation. In this sense, the change or gain score is a better measure of the vitality of the academic achievement growth climate in the school during the period in question. It is, in this sense, a better measure of the overall quality of the educational process, a factor persistently eluding direct measurement. It measures whether a school is getting better or getting worse, and therefore, by implication is measuring to some degree, and in the composite, such things as school leadership, teacher and student attitude, as well as sustained interest and motivation among all involved. As with the prediction of the proportion of F's given--average daily attendance, proportion of whites in school and suspension rates contribute significantly to the prediction of the school-wide non-promote rate. In fact, unlike most multiple regression solutions which largely exhaust themselves in terms of additional explained variance after about three predictors, each of the first five predictors add significant new explained variance (from R^2 change = .027 to .431). This clearly suggests that any strategy for reducing the proportion of non-promotes be similarly multi-faceted. As with the prediction of the proportion of F grades given, this prediction of the school-wide non-promote rate suggests that a reduction in a school's non-promote rate may be assisted through: (a) implementing

positive policies which will enhance the average student daily attendance rate, (b) by moving the white to minority ratio towards parity, and by (c) developing educational strategies for modifying student behaviors which lead to individual suspensions--which suspensions will, in the composite, effect the overall learning environment of the school negatively if allowed to persist. Although of lesser predictive value than the preceding variables, examination of the average poverty rate for a school yields some noteworthy findings. As a school's poverty rate goes up, the proportion of non-promotes goes down ($r = -.360$). This suggests that different standards are being utilized for promotion policies, since other objective correlates of academic success (such as standardized achievement test scores and grades) either show a contrary relationship to this or no significant relationship at all. Thus, it may very well be that a short-sighted beneficence towards students in schools with a high poverty rate, through a too liberal promotion policy, may have an unintended and undesirable effect. This unintended effect may be the lowering of that school's overall expectations for its lower socio-economic status students, and in so doing lower the average student's real world, objectified/normed achievement. By lowering standards for a variety of well intentioned humanitarian reasons, there is the sometimes subtle risk of lowered expectations becoming self-fulfilling prophecies. Some might define this as a variation of discrimination against the poor. Whatever the definition, or for whatever reasons, the data does show this important inverse relationship between a school's non-promote rate and its poverty rate. This finding deserves serious consideration and discussion relative to establishing and maintaining standards regarding achievement expectations, what each grade shall mean in the system--by subject and grade level, and what shall consistently be required for promotion. Also, of lesser explanatory power is a school's teacher absenteeism rate. As teacher ab-

senteeism goes up, so does the non-promote rate ($r = .173$, R^2 change = .003). This suggests that relative teacher dedication/motivation and/or instructional continuity between teacher and students is important.

As with the failure rate prediction modeling, a second more parsimonious set of predictor variables (reading comprehension post and gain scores were dropped because of concurrency with the dependent variable, and the five types of suspension rates were combined for parsimony) was used to predict the total non-promote rate in a school. This smaller set of predictors yielded a multiple regression coefficient for the school-wide non-promote rate of .792 ($R^2 = .628$). See Table 5 for more detail.

Insert Table 5 here.

This compares to $r = .898$ and $R^2 = .806$ when the fuller set of predictor variables was used. The much greater explanatory power achieved when using the larger set of variables is primarily accounted for by the inclusion of the reading comprehension gain score variable, the academic achievement change/growth process variable discussed at length in presenting the fuller set of predictor variables. Its contribution, both conceptually and statistically speaking, is unique.

This same analysis was repeated separately to predict: (a) the school-wide black student non-promote rate, and (b) the school-wide non-black student non-promote rate.[1] These additional analyses were done to describe

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[1] The reader may note at this point, that this analysis utilizes a black/non-black 'other' dichotomy in contrast to the minority/white dichotomy used in prior analyses. This difference in categorization is due to the way the data pertaining to non-promotes has been kept. Because non-black minorities constitute less than 5% of the total student population, and because of the way its variable variances and central tendencies have worked, analyses including and excluding non-black minority student population from the black student population have yielded substantially the same results (in terms of statistical significance) when a variety of comparisons and other statistical treatments are employed.

the differences between black and non-black students, if any, in the school climate indicators related to predicting the non-promote rate for each group of students.

With regards to predicting the non-promote rate for blacks from the full list of ten potential predictor variables, the nine variables remaining in the equation yielded a multiple regression correlation coefficient of .856 and total explained variance of 73.2% (contrasted with .898 and 80.3% for the total group). (See Table 6 for more statistical detail.)

Insert Table 6 here.

Although the amount of R^2 change contributed by each predictor variable differs somewhat between predicting the total non-promote rate and the black non-promote rate, the same three variables of CTBS Reading Comprehension gain score, average daily attendance rate and rate of suspension for reason 2 (fighting, hitting and pushing) occur in that same order for both of these step-wise solutions (R^2 change values equaling .431, .206, .082; and .372, .174, .103, respectively). Although the proportion of whites in the school is the fourth most important predictor variable for the total non-promote rate (followed by suspension rate for reason 4, poverty rate, and teacher absenteeism rate, and suspension rates for reasons 3, 5 and 1, respectively), the ordered entry position for the proportion of whites in the school drops from fourth ($r = -.322$, R^2 change = .047) to sixth ($r = -.202$, R^2 change = .007) in the step-wise multiple regression solution for predicting the rate of black non-promotes. In this later step-wise solution, the proportion of whites is preceded by two rates of suspension (reasons 4 and 3, respectively), and is followed by poverty rate, teacher absenteeism rate, and finally by rate of suspensions for reason 1 (failure to comply). The

fuller meaning of this reordering of the predictors becomes more apparent when looking at the stepwise solution for the non-black student population (primarily white).

The multiple regression coefficient for the non-black student population is .856, with total explained variance equal to 73.2%, which is similar in magnitude to those figures derived for predicting the black non-promote rate. However, very noteworthy differences in both the amount of R^2 change contributed by each variable and their order of entry into the step-wise equation occurred. The most important variable for predicting the rate of white non-promotes in a school is the percent of whites in that school ($r = -.573$, R^2 change = .329). As the proportion of whites in a school goes up, the rate of their being non-promoted goes down. (Since this finding was derived for a system wherein white students clearly are in the numerical minority, this result should not be generalized to a dissimilar school system). Following the proportion of white students variable are, in order of entry into the stepwise equation for predicting the white student non-promote rate, the following predictor variables: reading comprehension gain score; average daily attendance rate; suspension rate for reason 5, which was disruption of entire school; suspension rate for reason 2, which was fighting, hitting and pushing; teacher absenteeism rate; suspension rate for reason 4, which was failure to attend school/classes on time; average post-test reading comprehension score for school; suspension rate for reason 3, which was failure to attend all assigned classes; and poverty rate. (See Table 7 for these data.)

Insert Table 7 here.

What this all means is certainly open to discussion, and likely will

generate as much controversy as any finding presented so far in this study. As is often the case, the analyses of a larger, more general population (such as the total school population) may lead to misleading conclusions about sub-populations. It is apparent that--while a proportionately larger white student population in a school (although still the numerical minority group) relates positively by itself to both the black and non-black student promotion rate, as well as contributes significantly to the prediction of both in a stepwise multiple regression analysis--the proportion of whites in a school is much more crucial to predicting the white students' non-promote rate[1] than the black student non-promote rate. The clear enhancement of the importance of this variable in predicting the white (non-black) student promotion rate when compared to the black promotion rate may be due at least in part to the dynamic of non-blacks' feeling more comfortable in a social system structure wherein their numerical minority status is less overwhelming. They, as most persons, may feel more comfortable and able to function optimally in a social context perceived by them as more friendly, as more accepting of their ethnic status. This finding certainly deserves further investigation. This is important to pursue, because if, as the findings indicate, it is educationally desirable for all students for schools to work towards some type of black to non-black student membership parity, strategies must be developed to reverse the disproportinate out-migration of non-blacks to an in-migration pattern for this non-black group. The other prior findings--pertaining to gain score-based academic growth process, the positive effect of a well-ordered school climate, with teachers and students highly motivated to attend to their school roles on a committed basis, and the need to develop more effective teaching-learning strategies for disadvantaged students from poverty

[1] strictly speaking, non-black students taken as a group.

level homes--also pertain to reducing the non-black non-promote rate. Each of these concerns relates to developing totally effective schools for all students.

Phase Three: t-tests Contrasting High and Low Student Failure Rate Schools

The 24 junior and 15 senior high schools were ranked in terms of their failure rate, in terms of the percent of total grades given which were F. The twenty-five percent of the junior high schools (6) and senior high schools (4) which had the lowest failure rate were contrasted with the twenty-five percent of the junior high schools (6) and senior high schools (4) which had the highest failure rate, using a series of t-tests. These two groups were contrasted in terms of the following variables:

- poverty rate;
- average CTBS reading comprehension post-test and gain scores for the entire school, for minority students and for white students;
- teacher absenteeism rate;
- average daily attendance rate;
- total suspension rate, as well as the rate of suspension for five different reasons;
- corporal punishment rate;
- proportion of each of five racial groups in the school population;
- the non-promote rate for blacks, non-blacks and total school population;
- school-wide CTBS reading comprehension test discrepancy between minority and white students with respect to both the average post-test NCE score and average NCE gain score for each group.

There were significant differences between the twenty-five percent lowest failure rate schools (6 junior high schools and four senior high schools) and the twenty-five percent highest failure rate schools (6 junior high schools and four senior high schools) with respect to the following variables:

- average daily attendance rate;
- overall school non-promote rate;
- the school-wide reading comprehension post-test discrepancy between average minority student

scores and average white student scores with significantly less discrepancy in the low failure rate schools;
- school-wide average post-test reading comprehension scores for all minority students;
- school-wide average reading comprehension post-test reading comprehension scores for all students.

These data may be found in Appendix A. There were also significant differences between these groups, as one would expect, with respect to the proportion of each letter grade given and with respect to the proportion of F's given in each of the four major subject areas (English, mathematics, science and social studies).

Although it was further found that there were significant differences between the high and low failure rate schools at each grade level for each of these four major subject areas in terms of the F rate, such was not the case in several subjects at several high school grade levels. No differences were found between high and low failure rate schools with respect to grade 11 and grade 12 mathematics, science or social studies failure rates. Nor was such a difference found for tenth grade social studies.

Because of the relatively small size of the number of the schools in the top and bottom twenty-five percent failure rate rankings, the concern of reliability lead to repeating this set of comparisons twice--once using the top (13) and bottom (13) third failure rate groups of schools and once using the top (19) and bottom (19) half schools in terms of failure rate. The results were basically the same (see Appendix A), with several comparatively minor exceptions.

SUPPLEMENTARY FINDINGS

The average school-wide percent of each letter grade given across all of the 24 junior high and 15 senior high schools in this study were computed. Also computed were tests of significant difference between the

percent of different letter grades given. The percent of each letter grade given were as follows: 12.2 were A's; 15.5 percent were B's; 19.4 percent were C's; 18.8 percent were D's; 28.3 percent were F's; and 5.9 percent were classified as "other" (incompletes and the like). It is obvious that this A to F distribution of scores is skewed. There are more than twice as many F's given as A's. The average percent of F's given in a secondary school is significantly greater than any other letter grade. Moreover, the average percent of D's given in a secondary school is significantly greater than the percent of either A's or B's. (See Appendix B for summary of these data.)

Because over one-fourth of all secondary grades given are F grades, it is of interest to view the F rate given in each major subject. The average percent of F's given in these 39 schools in mathematics (35.9 percent) is significantly greater ($p < .01$) than that for science (31.6 percent), social studies (30.4 percent), or English (28.1 percent). A series of t-tests were done in deriving these results. (See Appendix C for more statistical detail.) In contrast, the average percent of F's given in English across all secondary schools was significantly lower than for mathematics ($p < .001$), science ($p < .01$) or social studies ($p < .05$). The average percent of F's given in social studies was not significantly different from the average percent of F's given in science (at the .05 level of confidence).

The average percent of F's given for all subjects together in a school did not vary significantly between junior high schools (mean = 27.96 percent) and senior high schools (mean = 28.89 percent). Nor were there significant differences between junior and senior high schools with respect to the percent of F's given when analyzed separately for the major subject areas of English, mathematics, science or social studies. However, the average total non-promote rate for the senior high schools (25.8 percent)

was significantly greater ($p < .001$) than the non-promote rate for the junior high schools (11.93 percent). (See Appendix D for greater detail.)

The overall four-major-subject-based failure rate for all secondary schools, computed grade by grade, showed that there were no significant differences between the failure rates for grades 7 (29.8 percent), 8 (30.8 percent), 9 (30.4 percent) and 11 (29.9 percent). However, the failure rate for grade 10 (42.0 percent) was significantly higher, and for grade 12 (19.5 percent) significantly lower, than for any of the other grades 7 through 12 ($p < .001$). See Appendix E for statistical details and Figure 1 for a graphic display of these findings. Basically this same grade 7 through grade 12 percent-of-F-based grading pattern occurred in English, mathematics and science, but a notable difference occurred at grade 10 in social studies. The percent of F grades given in grade 10 social studies was not significantly higher than the F percent for grades 7, 8 and 9, as it was, in contrast, found to be for English, mathematics and science. See Figures 2 through 6 and Appendix F for graphic presentation and greater statistical detail.

Although not a focus of this study, comparison of individual senior high schools in terms of percent of total F grades assigned--ranged from a high of 45.1 percent of all grades assigned to a low of 13.2 percent. Comparable variation was observed in junior highs where the high and low rates were 46.6 percent and 9.1 percent, respectively.

Inspection of differences within the schools reveal a considerable spread of percent of F grades. Differences among the major academic subjects show ranges of 27.0 percent to 62.0 percent in individual senior high schools. Junior high differences ranged from 22.2 percent to 45.0 percent.

When individual courses within the various subject disciplines are compared, the range of F grades show a high of 56% for Shop Mathematics and a low of 21% for 12th grade English courses. Overall, the highest

percentages of F's occurred in mathematics courses. When F grades in Honors and Advanced Placement courses are compared, the range shows a high of 19.2% for F grades in Trigonometry to a low of 0.0% F grades in Advanced Placement European and Advanced Placement American History courses.

A final note in this analysis is found in the trend for the critical factor, attendance, which occurred from the 1975-1976 school year to 1980-1981 school year. During this period, the average daily attendance rate for senior high schools fell from 83.2% to 72.7%--while the junior high rate fell from 87.2% to 76.4%.

SUMMARY

In summary, high failure rate schools significantly differ from low failure rate schools in that these schools have lower attendance rates and higher non-promotion rates.

Another difference between high and low failure rate schools is found in the 1980-1981 reading comprehension test scores. Low failure rate schools show superiority over high failure rate schools.

Minority students in the low failure rate schools reflect higher reading comprehension test scores than in the high failure rate schools.

Varied trends in suspension rates appear between high and low failure rate schools. Where there is a significant difference in suspension rate it is in favor of the school with the low failure rate. This finding underscores the desirability of a more positive school climate and student behavior in these schools.

As would be anticipated, there are significant differences between high and low failure rate schools with respect to the average grade by subject and by average percent of each letter grade given.

The non-promotion rate for blacks in the high failure rate schools is more than twice the non-promotion rate for blacks in the low

failure rate schools.

For other students (primarily white), the non-promotion rate in high failure rate schools is almost three times the non-promotion rate for non-black students in the low failure rate schools.

There is a significant difference between the high and low failure rate schools with respect to the school-wide discrepancy between minority and white reading comprehension post-test scores. The low failure rate schools show less difference between minority and white average reading comprehension scores than do the high failure rate schools.

Over 85 percent of the variance in school failure rate is explained by four school indices: average daily attendance rate, percent of whites in school, poverty rate and total suspension rate. A fifth and less important factor is teacher absence rate.

For predicting the total school non-promotion rate, six school climate indicators account for over 80 percent of the variance: reading comprehension gain score; average daily attendance rate; rate of suspension for hitting; fighting and pushing; percent of whites in school; suspension rate for failure to attend school/classes on time and poverty rate. A seventh and less important factor is teacher absence rate.

This prediction of non-promotion rate was done separately for blacks and for non-black others (primarily whites). For predicting the non-black non-promotion rate, eight school indices accounted for over 73 percent of the variance in the black non-promotion rate: reading comprehension gain score, average daily attendance rate, three suspension rates (for hitting, fighting and pushing, for failure to attend school/classes on time; and for failure to attend all assigned classes), percent of whites in school, poverty rate and teacher absence rate. For predicting the non-promotion rate for non-black others (primarily whites), eight school

indices also accounted for over 73 percent of the variance in the non-black (mostly white) non-promotion rate which are, in order: percent of whites, reading comprehension gain score; average daily attendance; suspension rate for disruption of entire school; suspension rate for hitting, fighting and pushing; teacher absence rate; suspension rate for failure to comply and suspension rate for failure to attend school/classes on time. Although the percent of whites in the school is a significant factor in predicting the non-promotion rate for both groups, its relative importance in predicting the non-promotion rate is greater for the non-black others (mostly white) than for blacks.

The highest correlation between any variable examined and the failure rate was the student rate of absence. This correlation was a very substantial -.899. The average absence rate also correlates significantly with the non-promotion rate in the school, -.629. This finding underscores the critical need for students to attend school regularly if they are to obtain passing grades in their courses.

When grades are compared across the major academic subjects of English, mathematics, science and social studies, they vary significantly. The failure rate in mathematics is greater than for any other subject. For English, this rate is less than for any other subject. This finding suggests that there are differential practices as well as standards operating in each academic area.

When grade levels are compared for failing grades, no significant differences are found between the three junior high grade levels: seventh, eighth and ninth. When senior high grade levels are compared, significant differences are found between each of the three grades. The rate of failures at grade 10 is significantly greater than for any other

grade. The failure rate at grade 11 is significantly lower than grade 10, but significantly higher than grade 12. Grade 10 appears to be the critical period for failure and, as seen in other school district data, is the critical period for dropout or flight from the school for many students.

RECOMMENDATIONS

Findings of this study demonstrate the diversity of grading practices in the schools, showing differences not only between schools, but between grade levels and subjects.

Student absence is a most significant factor in the failure syndrome. It is apparent that students cannot master their school work without attending classes. Improvement of student attendance is the most critical immediate need in the schools. Although there is no simple remedy for this complex problem, some part of the solution can be found in improved communication with parents, support to students in coping with school demands and more meaningful involvement of students in their learning and the life of the school. Undoubtedly, increased school resources for elimination of the absence problem will be necessary. Active attack on the absence problem should be considered through organization of local school attendance offices with appropriate teacher and staff time and the reconstruction of the homeroom teacher role in active monitoring of incidences and supportive counseling to students requiring assistance.

Related to improvement of student attendance is the need for improvement of student services to assist students in coping with school demands, perhaps through student orientation and how-to-study strategies. Again, resources in staff and time will be necessary.

Staff development services for teachers to improve their competencies in instruction of heterogeneous classes appears essential to

improved desegregating schools. Such assistance requires demonstration teaching and resource personnel.

Because failure and non-promotion rates appear to be significantly related to racial make-up of the school, every effort should be made to maintain balance in student make-up of the schools.

Differences between schools and subject areas in grading practices suggest the need for establishment of standards for performance. Once determined through active participation of staff and community, such standards should be communicated to school staff, students and their parents.

The diversity of grading practices in the district also reveals the need to develop consensus about grading philosophy in the district and at each school utilizing the recommendations made by Gronlund for developing a multiple grading and reporting system. Once consensus about a philosophy of grading is obtained, staff training along the principles of the Data Box for improved application of educational measurement by teachers is critical so that appropriate assessment procedures may be instituted. Grading systems that are cooperative have appeal in improving current practices, just as cooperative learning strategies as proposed by Slavin (1980) may have potential for improving the classroom.

Finally, findings from this study about grading practices are but "the tip of the iceberg." Such results indicate a need for major efforts to improve learning in these schools. Current indicators of school output--grades and promotions, as demonstrated by this study, show extensive learning difficulties.

Eight decades have passed since Ayres (1909) in his book, Laggards in the Schools, reported excessive numbers of failing students in urban schools. Cleveland, Ohio was represented in his study along with other

large cities of the time. Although Ayres was addressing failure of elementary students, he concluded that the crux of the problem was dealing with a large population, who, while not defective, do not keep up with their fellows. Ayers's description of another era mirrors the present. There are still laggards in the schools.

To improve achievement in the secondary schools will be a challenge. There is a complexity in secondary schools because teachers and students work on higher order objectives. Their tasks and criteria for their tasks are more problematic. Class presentations vary. Sampling of student performance rather than continuous monitoring is necessary. Students have more discretion. Teachers generally look for "end of the course" products to assess students. Teachers need motivation to hold students responsible for the results of their work. They may need more out-of-class time or assistance in designing and evaluating student assignments validly and reliably. There is also a rather ambiguous commitment of society as to what schools are for.

Immediately possible for secondary schools is the action to obtain a consensus among schools and school staff about the mission the school will serve. By promulgating school goals, after input of all parties to be affected--parents, students, staff and community, the entire school community and school district can support and work toward the commonly accepted objectives.

Principals can ensure that teachers are teaching the subjects for which they are prepared to teach. They may organize a process for review of lesson plans through the departmental organization in secondary schools, they can allocate special instructional personnel to assist students requiring assistance. Principals might motivate teachers by leadership in improvement of the organizational and learning climate in

the school. They can communicate expectations to teachers to ensure that teachers monitor and reinforce student work behavior, notifying teachers about apparent discrepancies in grading on the basis of other information about student achievement.

Basic improvement actions in two areas are immediately feasible. Improvements might be patterned on strategies identified in the work of Hawley and his associates (1981) as likely to enhance educational equity and quality of desegregating schools. Synthesizing findings of some 1,200 studies and experiences of leaders in school districts that have undergone desegregation, the study shows that reassignment of pupils must be buttressed by instructional and organizational changes.

Additional improvement actions might be modeled on the structures identified by Edmonds and Frederickson (1978) and other investigators of effective schools. If, as Edmonds and Frederickson propose, schools are to become effective for all students, regardless of family background, strong administrative leadership in instructional matters and a safe and orderly climate for learning are needed. Although their findings relate primarily to elementary schools, some of their other prerequisites for effective schools seem appropriate: a consensus on the part of the staff about the school's mission for mastery of basic skills, positive expectations on the part of teachers, effective monitoring and assessment of student performance related to the instructional objectives of the classroom and involvement of parents in the life of the school. Of particular importance to large urban school districts serving areas with declining economies is the proposition espoused by Edmonds (1979) that a school is not relieved of its instructional obligations when teaching the children of the poor. Desegregation offers an unparalleled opportunity to improve the schools. Grading practices should be an immediate priority for thoughtful improvement action.

TABLE 1

CORRELATION BETWEEN RATE OF FAILURES AND NON-PROMOTES WITH SELECTED VARIABLES

School Variable	Proportion of F Grades Given			Non-Promote Rate in School				
	r	N	Prob.*	r	N	Prob.*	$\bar{X}$	s.d.
Teacher absenteeism rate	.1469	38	.379	.0497	38	.767	6.17	1.28
Poverty rate	.2703	39	.096	-.3007	39	.063	68.55	12.70
Average CTBS Reading Compr. post-test NCE	-.5685	39	<.001	-.2091	39	.201	40.35	4.63
Mean minority reading comprehension post-test	-.5519	39	<.001	-.2527	39	.121	38.39	4.30
Mean white reading comprehension post-test NCE	-.2690	39	.098	.1046	39	.526	46.34	5.33
Mean reading comprehension gain NCE	-.0753	38	.653	.3815	38	.018	-.99	3.45
Mean minority reading comprehension gain NCE	-.0683	38	.684	.3951	38	.014	-.84	3.54
Mean white reading comprehension gain NCE	-.0883	38	.598	.3192	38	.051	-1.47	3.70
Proportion of F's given in English	.8889	39	<.001	.6802	39	<.001	28.15	9.32
" " " " " Math	.8179	39	<.001	.5435	39	<.001	35.87	10.86
" " " " " Science	.8987	39	<.001	.6373	39	<.001	31.56	10.98
" " " " " Social Studies	.8080	39	<.001	.5519	39	<.001	30.42	7.52
Average daily attendance rate	-.8990	39	<.001	-.6294	39	<.001	75.76	6.51
Suspension rate: Total	.3573	39	.026	.0135	39	.935	72.60	34.93
Suspension rate: Reason 1	.1344	39	.414	.1361	39	.409	13.70	10.03
" " " 2	.0087	39	.958	-.4036	39	.011	13.71	9.43
" " " 3	.2842	39	.080	.2775	39	.087	12.86	9.77
" " " 4	.4801	39	.002	.2394	39	.142	7.89	9.88
" " " 5	.1610	39	.328	-.3014	39	.062	17.99	10.04
Corporal punishment rate	-.0136	30	.943	-.2035	30	.281	22.74	23.35
Proportion of native Americans	.0045	39	.978	-.0651	39	.694	.33	.24
" " whites	-.3218	39	.046	-.2973	39	.066	28.52	10.05
" " blacks	.1122	39	.497	.2607	39	.109	67.84	13.36
" " Asians	-.1313	39	.426	-.0007	39	.997	.65	1.17
" " Hispanics	.1677	38	.314	.0219	38	.896	3.60	4.80
Non-promote rate: Total	.5953	39	<.001	1.000	39	<.001	17.25	10.94
" " black	.5195	39	<.001	.9651	39	<.001	.22	.20
" " non-black (other)	.5598	39	<.001	.8668	39	<.001	.31	.29
Age advancement rate	-.1237	36	.472	-.2419	36	.155	1.25	2.20
Proportion of total A's given	-.6514	39	<.001	-.5442	39	<.001	12.20	3.08
" " " B's "	-.8970	39	<.001	-.6279	39	<.001	15.49	3.36
" " " C's "	-.8248	39	<.001	-.6190	39	<.001	19.36	3.20
" " " D's "	-.4687	39	.003	-.2567	39	.115	18.76	2.42
" " " 'other' grades	.2389	39	.143	.5813	39	<.001	5.88	2.63
Minority/white difference in post-test reading comprehension	-.2615	39	.108	-.4573	39	.003	-7.95	3.59
Minority/white difference in post-test reading comprehension gain score	.0415	38	.804	.1062	38	.526	.63	2.05

*Two-tailed test was used; divide by 2 for one-tailed test value.

TABLE 2

* M U L T I P L E R E G R E S S I O N * * * * * * * * * * * * * VARIABLE LIST 1
REGRESSION LIST 1

DEPENDENT VARIABLE.. Percent of Total F Grades

SUMMARY TABLE

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
PADA	0.88185	0.77766	0.77766	-0.88185	-0.9851243	-0.79890
FWHITES	0.91980	0.84613	0.06847	-0.37677	-0.2028130	-0.25577
PSUSP5	0.92582	0.85715	0.01102	0.08210	0.8125889D-01	0.10605
PSUSR1	0.92857	0.86224	0.00509	0.03707	-0.7677009D-01	-0.10025
PSUSR4	0.92953	0.86402	0.00178	0.45492	0.5631556D-01	0.07372
T2MLEALL	0.93004	0.86497	0.00095	-0.58069	-0.7186263D-01	-0.04240
D2MCEALL	0.93049	0.86582	0.00085	0.12856	0.1252181	0.04809
PPVRATE	0.93108	0.86692	0.00110	0.24599	0.1699515D-01	0.02888
PTEACHAE	0.93132	0.86735	0.00043	0.34614	-0.1616832	-0.02421
PSUSR2	0.93136	0.86743	0.00008	-0.09930	0.1236746D-01	0.01525
(CONSTANT)					110.7756	

TABLE 3

* MULTIPLE REGRESSION * * * * * * * * * * * * * VARIABLE LIST 1
REGRESSION LIST 1

DEPENDENT VARIABLE.. PFTOTAL Percent of Total F Grades

SUMMARY TABLE

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
PADA	0.88185	0.77766	0.77766	-0.88185	-1.001196	-0.81188
PWHITES	0.91986	0.84613	0.06847	-0.37677	-0.2092336	-0.26387
PUVRATE	0.92438	0.85449	0.00835	0.24599	0.45879470-01	0.07796
PTCTSUS	0.92531	0.85670	0.00172	0.25698	0.99411320-02	0.04390
PTEACHAB	0.92581	0.85712	0.00092	0.34614	0.2176978	0.03260
(CONSTANT)					105.1211	

TABLE 4

* MULTIPLE REGRESSION * * * * * * * * * * * * * VARIABLE LIST 1
REGRESSION LIST 1

DEPENDENT VARIABLE.. PTOTNP PERCENT OF TOTAL THAT ARE NONPROMOTES

SUMMARY TABLE

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
D2NCEALL	0.65652	0.43102	0.43102	0.65652	1.725393	0.47615
PADA	0.79818	0.63709	0.20607	-0.57757	-0.6220260	-0.36248
PSUSR2	0.84789	0.71891	0.08182	-0.52002	-0.2240572	-0.19855
PWHITES	0.87502	0.76566	0.04675	-0.32229	-0.2602002	-0.23581
PSUSR4	0.89008	0.79224	0.02656	0.19636	0.2468429	0.23222
POVRATE	0.89454	0.80021	0.00797	-0.36042	-0.1235340	-0.15085
PTEACHAB	0.89613	0.80306	0.00285	0.17320	-0.4495427	-0.04837
PSUSR3	0.89719	0.80496	0.00190	0.23606	-0.54768630-01	-0.05087
PSUSR5	0.89783	0.80610	0.00114	-0.40143	-0.65066800-01	-0.06103
PSUSR1	0.89790	0.80623	0.00013	0.06430	0.15533490-01	0.01458
(CONSTANT)					88.59992	

TABLE 5

* MULTIPLE REGRESSION * * * * * * * * * * * * * * VARIABLE LIST 1
REGRESSION LIST 1

DEPENDENT VARIABLE.. PTOTNP PERCENT OF TOTAL THAT ARE NONPROMOTES

SUMMARY TABLE

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
PADA	0.57757	0.33359	0.33359	-0.57757	-1.103723	-0.64318
PCVRATE	0.73365	0.53824	0.20465	-0.36042	-0.3887469	-0.47469
PWHITES	0.78681	0.62222	0.08399	-0.32229	-0.3218905	-0.29172
PTEACHAB	0.79190	0.62710	0.00488	0.17320	-0.6553688	-0.07052
PTOTSUS	0.79245	0.62798	0.00087	-0.10324	-0.10978310-01	-0.03484
(CONSTANT)					141.8391	

TABLE 6

* MULTIPLE REGRESSION * * * * * * * * * * * * * * VARIABLE LIST 1
REGRESSION LIST 1

DEPENDENT VARIABLE.. RBNPP RATIO OF BLACK NONPROMOTES TO PROMOTES

SUMMARY TABLE

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
D2NCEALL	0.60957	0.37158	0.37158	0.60957	0.3363243D-01	0.48446
FADA	0.73835	0.54516	0.17358	-0.53151	-0.9861789D-02	-0.29997
PSUSR2	0.80511	0.64820	0.10304	-0.53476	-0.6104275D-02	-0.28236
PSUSR4	0.83749	0.70139	0.05319	0.24533	0.6844098D-02	0.33608
PSUSR3	0.84472	0.71355	0.01216	0.19701	-0.2273997D-02	-0.11026
PWHITES	0.84874	0.72036	0.00681	-0.20226	-0.2247757D-02	-0.10633
POVRATE	0.85397	0.72926	0.00890	-0.37542	-0.2417693D-02	-0.15410
PTEACHAB	0.85511	0.73122	0.00196	0.18848	-0.1112120D-01	-0.06246
PSUSR1	0.85582	0.73243	0.00121	0.03966	-0.8369355D-03	-0.04100
(CONSTANT)					1.390136	

TABLE 7

* MULTIPLE REGRESSION * * * * * * * * * * * * * * VARIABLE LIST 1
REGRESSION LIST 1

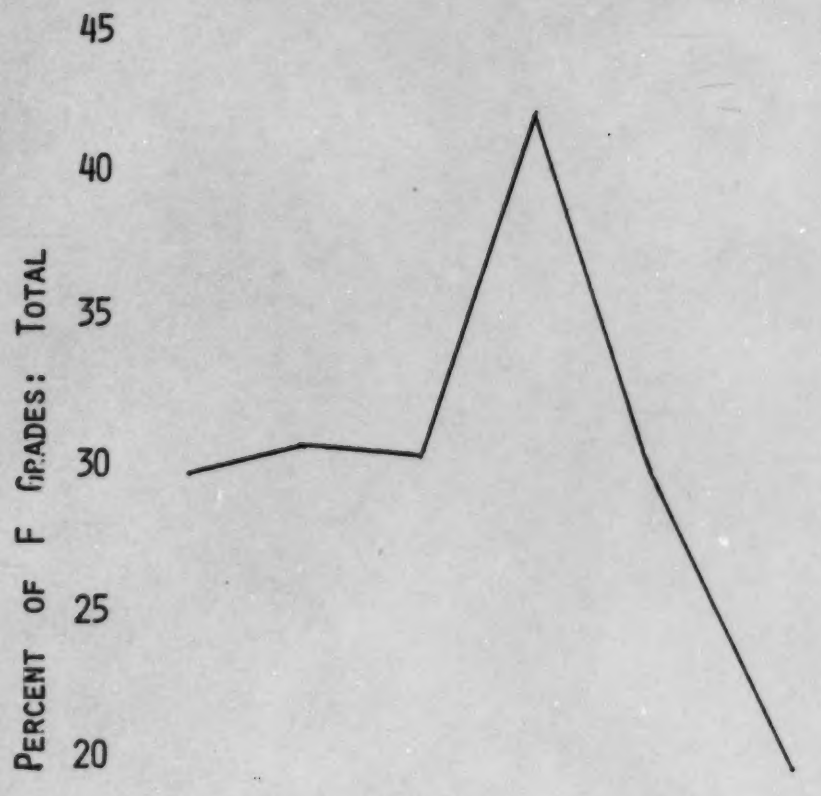
DEPENDENT VARIABLE.. RONPP RATIO OF NONBLK NONPROMOTES TO PROMOTES

SUMMARY TABLE

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
PWHITES	0.57328	0.32865	0.32865	-0.57328	-0.15158450-01	-0.50719
D2NCEALL	0.74669	0.55755	0.22890	0.50103	0.35321360-01	0.35987
PAGA	0.81735	0.66806	0.11051	-0.49368	-0.18186720-01	-0.39128
PSUSP5	0.84202	0.70900	0.04095	-0.41156	-0.92129760-03	-0.03190
PSUSR2	0.84645	0.71647	0.00747	-0.42592	-0.55560860-02	-0.16505
PTEACHAB	0.84960	0.72182	0.00535	0.08210	-0.36259870-01	-0.14404
PSUSR1	0.85256	0.72666	0.00504	-0.10741	-0.30635550-02	-0.10614
PSUSR4	0.85555	0.73197	0.00511	0.06444	0.26571530-02	0.09229
T2NCEALL	0.85787	0.73594	0.00397	-0.21038	0.56242360-02	0.06804
PSLSR3	0.85841	0.73686	0.00097	0.08899	-0.94339940-03	-0.03235
POVRATE	0.85850	0.73702	0.00016	-0.16665	0.43675670-03	0.01969
(CONSTANT)					2.267927	

FIGURE 1

PERCENT OF F GRADES GIVEN IN FOUR MAJOR SUBJECTS*: BY GRADE LEVEL

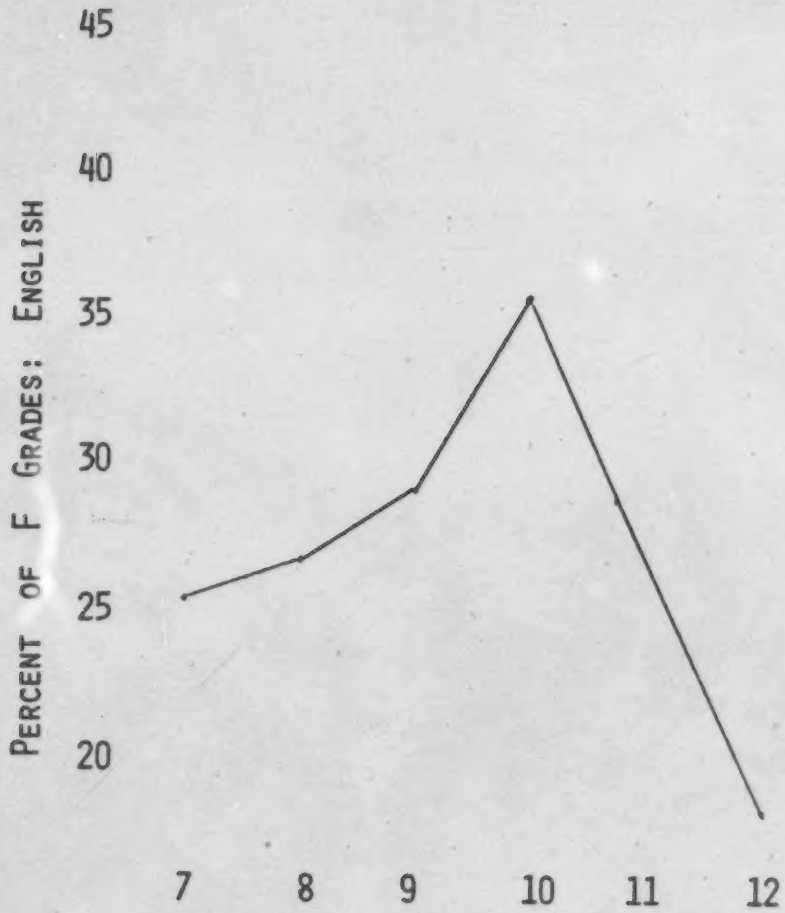


	MEAN	S.D.	N
	29.8	9.46	24
	30.3	7.75	24
	30.4	8.89	23
	42.0	9.76	13
	29.9	8.74	15
	19.5	6.96	15

* ENGLISH, MATHEMATICS, SOCIAL STUDIES, AND SCIENCE

FIGURE 2

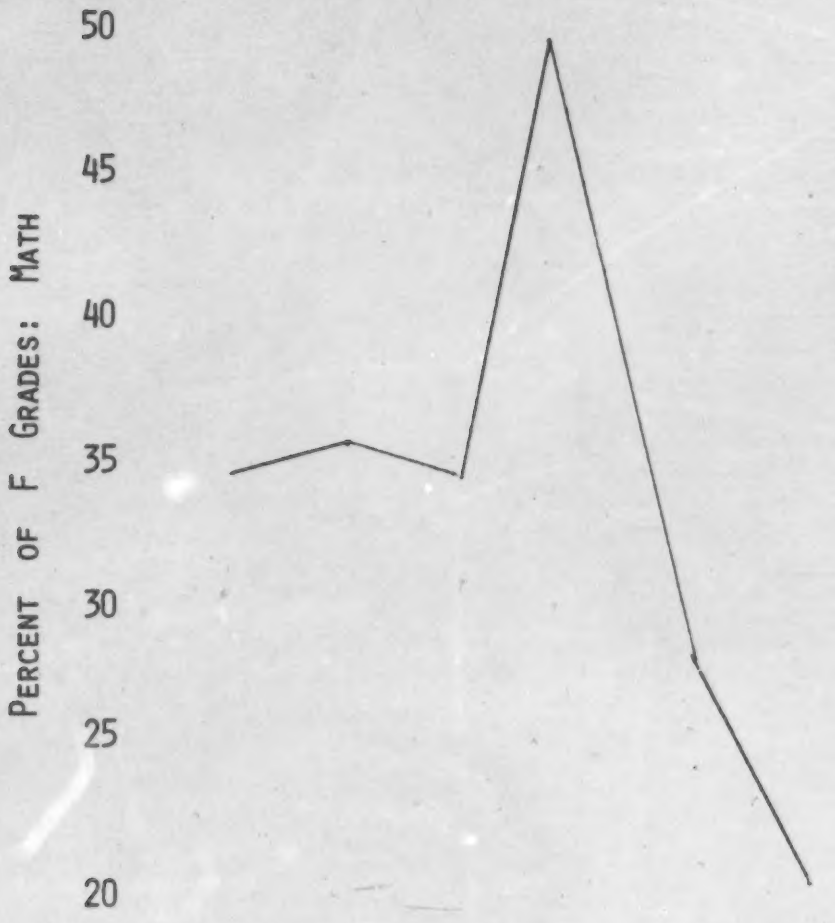
PERCENT OF F GRADES GIVEN IN ENGLISH:
BY GRADE LEVEL



Grade	Mean	S.D.	N
7	25.3	11.24	24
8	26.6	8.46	24
9	29.0	9.33	24
10	39.6	10.70	13
11	28.6	11.11	15
12	17.9	8.55	15

FIGURE 3

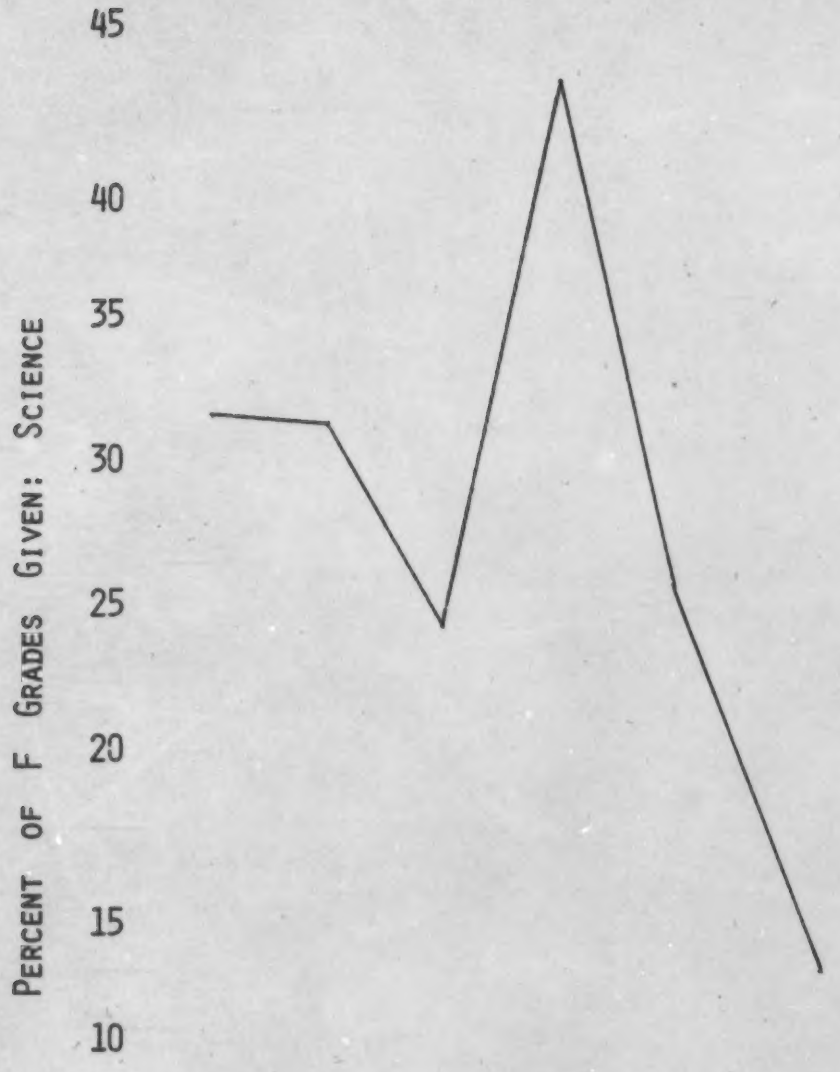
PERCENT OF F GRADES GIVEN IN MATH:
BY GRADE LEVEL



Grade	Mean	S.D.	N
7	34.4	13.41	24
8	35.5	8.88	24
9	34.2	13.09	24
10	49.2	9.42	13
11	28.0	8.47	15
12	20.1	8.15	15

FIGURE 4

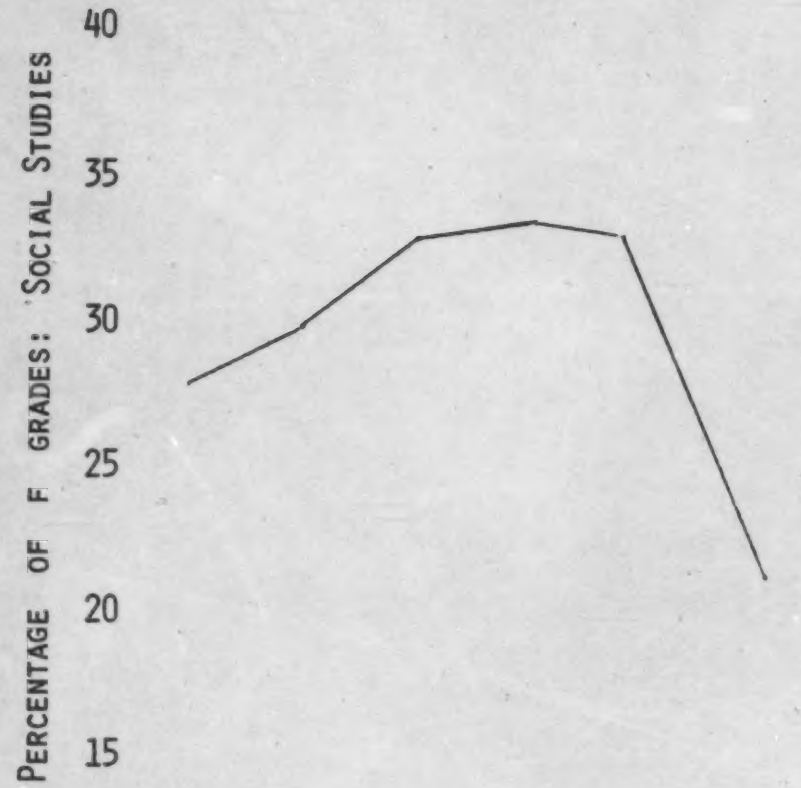
PERCENT OF F GRADES GIVEN IN SCIENCE: BY GRADE LEVEL



	MEAN	S.D.	N
	31.6	12.35	24
	31.3	12.29	24
	24.1	10.35	24
	43.0	11.73	13
	25.8	9.18	15
	12.2	11.9	14

FIGURE 5

PERCENT OF F GRADES GIVEN IN SOCIAL STUDIES: BY GRADE LEVEL



	MEAN	S.D.	N
	27.8	8.23	24
	29.7	8.75	24
	32.5	9.67	24
	33.1	10.65	12
	32.8	11.89	15
	21.0	10.36	15

FIGURE 6

PERCENT OF F GRADES GIVEN

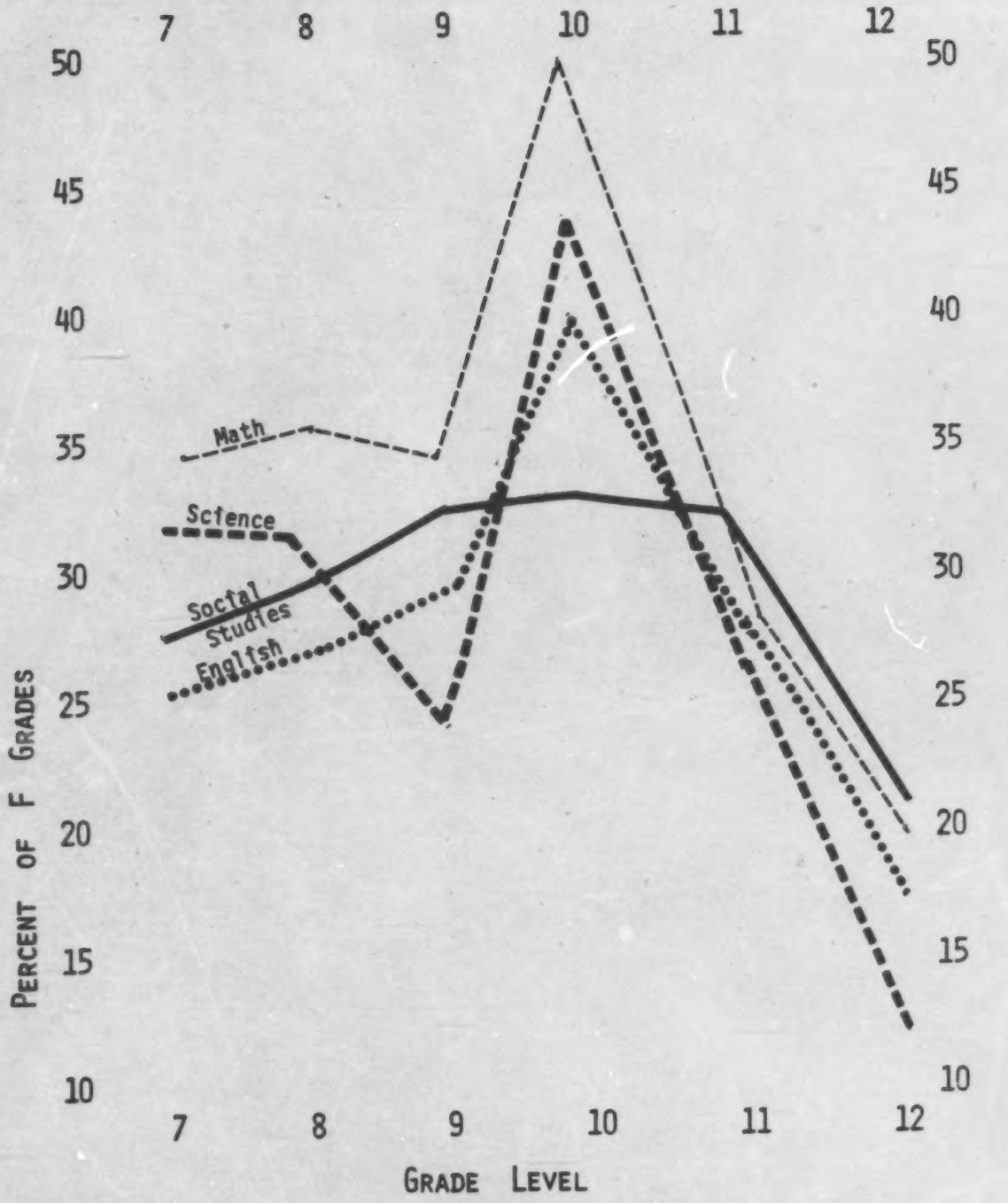
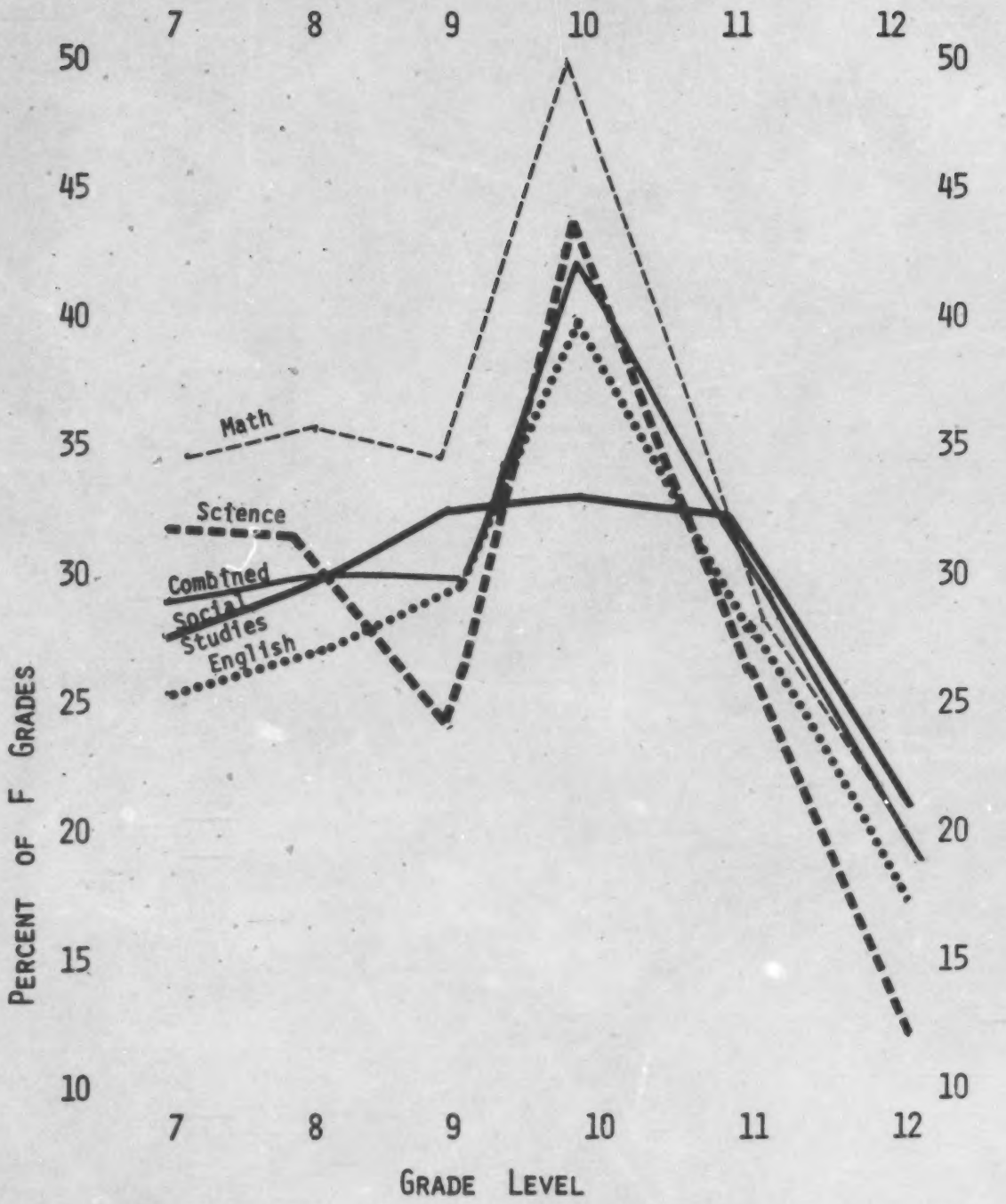


FIGURE 7

PERCENT OF F GRADES GIVEN



ENGLISH ..... SCIENCE _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

MATHEMATICS _ _ _ _ _ _ _ _ _ _ _ SOCIAL STUDIES _____

AVERAGE OF ALL FOUR MAJOR SUBJECTS _____

APPENDIX A

APPENDIX A

T - T E S T

GROUP 1 - SGRADEGP EQ Lowest F Rate Schools: 1/4 (25%)
GROUP 2 - SGRADEGP EQ Highest F Rate Schools: 1/4 (25%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	F VALUE	2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	POOLED VARIANCE ESTIMATE DEGREES OF FREEDOM	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	SEPARATE VARIANCE ESTIMATE DEGREES OF FREEDOM	SEPARATE VARIANCE ESTIMATE 2-TAIL PROB.
POVRATE												
GROUP 1	10	61.9100	13.572	4.292	1.04	0.952	-1.32	18	0.204	-1.32	17.99	0.204
GROUP 2	10	69.9900	13.857	4.382								
T2NCEALL												
GROUP 1	10	43.3270	7.027	2.222	10.51	0.002	2.31	18	0.033	2.31	10.70	0.041
GROUP 2	10	37.9535	2.168	0.686								
T2NCEMIN												
GROUP 1	10	41.5083	6.429	2.033	9.06	0.003	2.40	18	0.027	2.40	10.96	0.035
GROUP 2	10	36.3647	2.136	0.675								
T2NCEWHT												
GROUP 1	10	47.8695	7.925	2.506	2.97	0.120	0.50	18	0.621	0.50	14.44	0.623
GROUP 2	10	46.4139	4.598	1.454								
D2NCEALL												
GROUP 1	9	-0.1491	4.673	1.558	1.87	0.369	0.59	17	0.563	0.58	14.55	0.571
GROUP 2	10	-1.2478	3.416	1.080								
D2NCEMIN												
GROUP 1	9	0.0290	4.609	1.536	1.86	0.373	0.67	17	0.513	0.66	14.58	0.522
GROUP 2	10	-1.1993	3.378	1.068								
D2NCEWHT												
GROUP 1	9	-0.7614	5.220	1.740	1.81	0.394	0.29	17	0.777	0.28	14.70	0.781
GROUP 2	10	-1.3647	3.878	1.226								
PTEACHAB												
GROUP 1	9	5.7956	1.654	0.551	1.52	0.545	-0.51	17	0.614	-0.51	15.46	0.619
GROUP 2	10	6.1490	1.342	0.424								

T - T E S T

GROUP 1 - SGRADEGP EQ Lowest F Rate Schools: 1/4 (25%)
GROUP 2 - SGRADEGP EQ Highest F Rate Schools: 1/4 (25%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	F VALUE	2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	POOLED VARIANCE ESTIMATE DEGREES OF FREEDOM	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	SEPARATE VARIANCE ESTIMATE DEGREES OF FREEDOM	SEPARATE VARIANCE ESTIMATE 2-TAIL PROB.
PSCFENGL PERCENT OF ALL 80-81 ENGL.GRADES THAT= F												
GROUP 1	10	18.2106	8.774	2.775	1.92	0.344	-5.69	18	0.000	-5.69	16.37	0.000
GROUP 2	10	37.6885	6.326	2.000								
PSCFMATH PERCENT OF ALL 80-81 MATH GRADES THAT= F												
GROUP 1	10	24.7822	9.166	2.898	1.64	0.472	-5.66	18	0.000	-5.66	17.00	0.000
GROUP 2	10	45.5878	7.153	2.262								
PSCFSCI PERCNT OF ALL 8081 SCIENCE GRADES THAT=F												
GROUP 1	10	17.9326	6.559	2.074	1.74	0.420	-7.11	18	0.000	-7.11	16.77	0.000
GROUP 2	10	42.3430	8.661	2.739								
PSCFSS PERCENT OF ALL 80-81 S.S. GRADES THAT= F												
GROUP 1	10	24.0783	4.804	1.519	1.18	0.806	-6.51	18	0.000	-6.51	17.87	0.000
GROUP 2	10	38.6886	5.228	1.653								
PADA												
GROUP 1	10	83.7961	3.594	1.137	1.24	0.755	8.19	18	0.000	8.19	17.80	0.000
GROUP 2	10	69.8605	4.001	1.265								
PTUTSUS												
GROUP 1	10	55.0650	28.988	9.167	1.85	0.368	-1.62	18	0.123	-1.62	16.50	0.124
GROUP 2	10	80.1939	39.552	12.508								
PSUSR1												
GROUP 1	10	11.1912	8.856	2.800	1.33	0.682	-0.39	18	0.700	-0.39	17.65	0.700
GROUP 2	10	12.8658	10.195	3.224								
PSUSR2												
GROUP 1	10	14.3920	11.094	3.508	1.05	0.943	0.15	18	0.886	0.15	17.99	0.886
GROUP 2	10	13.6772	10.827	3.424								

APPENDIX A (Cont'd)

T - T E S T

GROUP 1 - SGRADEGP EQ 1. Lowest F Rate Schools: 1/4 (25%)
GROUP 2 - SGRADEGP EQ 3. Highest F Rate Schools (1/4 (25%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	F VALUE	2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
PSUSR3												
GROUP 1	10	7.5290	3.407	1.077	6.48	0.010	-2.30	18	0.033	-2.30	11.71	0.040
GROUP 2	10	14.3129	8.673	2.743								
PSUSR4												
GROUP 1	10	3.4742	5.080	1.606	6.53	0.010	-2.01	18	0.060	-2.01	11.69	0.068
GROUP 2	10	12.3255	12.980	4.105								
PSUSP5												
GROUP 1	10	15.4114	8.183	2.588	2.27	0.239	-0.79	18	0.440	-0.79	15.65	0.441
GROUP 2	10	19.1060	12.319	3.896								
PTOTCP												
GROUP 1	8	25.6270	24.530	8.673	2.87	0.264	0.86	12	0.406	0.93	11.53	0.372
GROUP 2	6	15.4888	14.487	5.914								
PAMERNAT												
GROUP 1	10	0.3675	0.153	0.048	2.57	0.175	0.31	18	0.764	0.31	15.08	0.764
GROUP 2	10	0.3396	0.245	0.078								
PWHITES												
GROUP 1	10	30.3971	9.812	3.103	1.02	0.972	1.54	18	0.142	1.54	18.00	0.142
GROUP 2	10	23.6926	9.695	3.066								
PBLACKS												
GROUP 1	10	70.9763	15.563	4.922	2.72	0.152	-0.42	18	0.682	-0.42	14.83	0.683
GROUP 2	10	73.3726	9.433	2.983								
PASIANS												
GROUP 1	10	0.9468	1.847	0.584	67.61	0.000	1.27	18	0.220	1.27	9.27	0.236
GROUP 2	10	0.1997	0.225	0.071								

T - T E S T

GROUP 1 - SGRADEGP EQ 1. Lowest F Rate Schools: 1/4 (25%)
GROUP 2 - SGRADEGP EQ 3. Highest F Rate Schools: 1/4 (25%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	POOLED VARIANCE ESTIMATE F VALUE	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	POOLED VARIANCE ESTIMATE DEGREES OF FREEDOM	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	SEPARATE VARIANCE ESTIMATE DEGREES OF FREEDOM	SEPARATE VARIANCE ESTIMATE 2-TAIL PROB.	
PHISPAN													
GROUP 1	9	2.0022	1.518	0.506	3.13	0.123	-0.46	17	0.654	-0.47	14.49	0.646	
GROUP 2	10	2.4660	2.685	0.849									
RBNPP RATIO OF BLACK NONPROMOTES TO PROMOTES													
GROUP 1	10	0.1194	0.086	0.027	8.24	0.004	-2.15	18	0.046	-2.15	11.15	0.055	?
GROUP 2	10	0.2969	0.247	0.078									
RONPP RATIO OF NONBLK NONPROMOTES TO PROMOTES													
GROUP 1	10	0.1652	0.113	0.036	13.66	0.001	-2.22	18	0.040	-2.22	10.31	0.051	?
GROUP 2	10	0.4678	0.416	0.132									
PTOTNP PERCENT OF TOTAL THAT ARE NONPROMOTES													
GROUP 1	10	10.9051	6.452	2.040	3.84	0.058	-2.55	18	0.020	-2.55	13.39	0.024	
GROUP 2	10	22.3717	12.642	3.998									
PAGEADV PERCENT OF TOTAL THAT ARE AGE ADVANCMNTS													
GROUP 1	9	1.8744	3.138	1.046	5.73	0.023	0.99	16	0.339	0.99	10.71	0.345	
GROUP 2	9	0.7568	1.311	0.437									
PATOTAL													
GROUP 1	10	14.4869	4.491	1.420	8.67	0.004	3.12	18	0.006	3.12	11.05	0.010	
GROUP 2	10	9.8060	1.525	0.482									
PBTOTAL													
GROUP 1	10	19.0887	3.784	1.197	6.33	0.011	5.26	18	0.000	5.26	11.78	0.000	
GROUP 2	10	12.3189	1.504	0.476									
PCTOTAL													
GROUP 1	10	22.6035	2.877	0.910	1.57	0.513	5.18	18	0.000	5.18	17.16	0.000	
GROUP 2	10	16.5677	2.297	0.726									

T - T E S T

GROUP 1 - SGRADEGP EQ 1. Lowest F Rate Schools: 1/4 (25%)
GROUP 2 - SGRADEGP EQ 3. Highest F Rate Schools: 1/4 (25%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	F VALUE	2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
PDTOTAL												
GROUP 1	10	20.1108	3.234	1.023	2.20	0.255	2.14	18	0.046	2.14	15.77	0.048
GROUP 2	10	17.4731	2.178	0.689								
PFTOTAL												
GROUP 1	10	17.8957	4.758	1.505	1.00	0.998	-9.33	18	0.000	-9.33	18.00	0.000
GROUP 2	10	37.7377	4.754	1.503								
PDTOTAL												
GROUP 1	10	5.8144	2.931	0.927	1.89	0.359	-0.25	18	0.809	-0.25	16.45	0.809
GROUP 2	10	6.0966	2.134	0.675								
PF7ENGL												
GROUP 1	6	16.4532	10.576	4.317	1.12	0.906	-3.58	10	0.005	-3.58	9.97	0.005
GROUP 2	6	37.7540	10.005	4.084								
PF8ENGL												
GROUP 1	6	16.9528	9.833	4.014	7.65	0.043	-3.39	10	0.007	-3.39	6.29	0.015
GROUP 2	6	31.4419	3.555	1.451								
PF9ENGL												
GROUP 1	5	22.1902	15.114	6.759	3.59	0.159	-2.16	10	0.056	-1.94	5.60	0.100
GROUP 2	7	36.5625	7.976	3.015								
PF10ENGL												
GROUP 1	2	22.0999	4.650	3.288	4.17	0.684	-3.28	4	0.031	-4.20	3.89	0.014
GROUP 2	4	46.3679	9.497	4.748								
PF11ENGL												
GROUP 1	4	18.9184	5.604	2.802	3.68	0.313	-3.39	6	0.015	-3.39	4.52	0.019
GROUP 2	4	39.4615	10.744	5.372								

T - T E S T

GROUP 1 - SGRADEGP EQ 1. Lowest F Rate Schools: 1/4 (25%)
GROUP 2 - SGRADEGP EQ 3. Highest F Rate Schools: 1/4 (25%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	POOLED VARIANCE ESTIMATE F VALUE	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	POOLED VARIANCE ESTIMATE DEGREES OF FREEDOM	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	SEPARATE VARIANCE ESTIMATE DEGREES OF FREEDOM	SEPARATE VARIANCE ESTIMATE 2-TAIL PROB.
PF12ENGL												
GROUP 1	4	10.3364	4.411	2.205	3.01	0.390	-3.70	6	0.010	-3.70	4.80	0.014
GROUP 2	4	26.6682	7.649	3.824								
PF7MATH												
GROUP 1	6	23.4734	10.931	4.462	1.36	0.747	-3.27	10	0.008	-3.27	9.78	0.008
GROUP 2	6	45.8447	12.726	5.195								
PF8MATH												
GROUP 1	6	26.5478	7.836	3.199	1.07	0.940	-3.75	10	0.004	-3.75	9.99	0.004
GROUP 2	6	43.2142	7.562	3.087								
PF9MATH												
GROUP 1	5	21.9816	10.883	4.867	1.07	0.994	-3.24	10	0.009	-3.26	8.96	0.010
GROUP 2	7	43.0823	11.253	4.253								
PF10MATH												
GROUP 1	2	43.0803	0.316	0.223	382.90	0.075	-3.02	4	0.039	-4.52	3.03	0.020
GROUP 2	4	57.0637	6.177	3.089								
PF11MATH												
GROUP 1	4	23.2479	8.088	4.044	1.40	0.787	-1.34	6	0.229	-1.34	5.84	0.229
GROUP 2	4	31.6335	9.581	4.791								
PF12MATH												
GROUP 1	4	20.8084	14.153	7.077	2.79	0.422	0.22	6	0.830	0.22	4.91	0.832
GROUP 2	4	18.9640	8.471	4.236								
PF7SCI												
GROUP 1	6	19.6337	9.980	4.074	1.04	0.970	-3.95	10	0.003	-3.95	10.00	0.003
GROUP 2	6	42.6225	10.161	4.148								

T-TEST

GROUP 1 - SGRADEGP EQ 1. Lowest F Rate Schools: 1/4 (25%)
GROUP 2 - SGRADEGP EQ 3. Highest F Rate Schools: 1/4 (25%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	F VALUE	2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
PF8SCI												
GROUP 1	6	19.0824	14.543	5.937	1.67	0.589	-2.92	10	0.015	-2.92	9.41	0.017
GROUP 2	6	40.9984	11.265	4.599								
PF9SCI												
GROUP 1	5	14.6870	9.283	4.151	1.14	0.938	-3.30	10	0.008	-3.34	9.14	0.009
GROUP 2	7	33.3592	9.929	3.753								
PF10SCI												
GROUP 1	2	22.9448	3.189	2.255	2.09	0.924	-8.73	4	0.001	-10.06	3.06	0.002
GROUP 2	4	55.3593	4.599	2.299								
PF11SCI												
GROUP 1	4	16.8795	5.043	2.522	5.80	0.183	-1.38	6	0.217	-1.38	4.00	0.240
GROUP 2	4	25.9409	12.146	6.073								
PF12SCI												
GROUP 1	3	4.7619	8.248	4.762	2.67	0.568	-1.61	5	0.168	-1.74	4.91	0.142
GROUP 2	4	19.1408	13.489	6.745								
PF7SS												
GROUP 1	6	22.9678	7.151	2.920	1.25	0.815	-2.83	10	0.018	-2.83	9.88	0.018
GROUP 2	6	34.0460	6.406	2.615								
PF8SS												
GROUP 1	6	23.9009	8.479	3.462	1.49	0.673	-3.31	10	0.008	-3.31	9.63	0.008
GROUP 2	6	38.7099	6.948	2.836								
PF9SS												
GROUP 1	5	27.1123	6.039	2.701	1.41	0.774	-4.03	10	0.002	-4.15	9.61	0.002
GROUP 2	7	42.9831	7.158	2.706								

T - T E S T

GROUP 1 - SGRADEGP EQ 1. Lowest F Rate Schools: 1/4 (25%)
GROUP 2 - SGRADEGP EQ 3. Highest F Rate Schools: 1/4 (25%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	F VALUE	F 2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	POOLED VARIANCE ESTIMATE DEGREES OF FREEDOM	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	SEPARATE VARIANCE ESTIMATE DEGREES OF FREEDOM	SEPARATE VARIANCE ESTIMATE 2-TAIL PROB.
PF10SS												
GROUP 1	1	35.8663	0.0	0.0	0.0	1.000	0.16	3	0.886	0.35	3.00	0.751
GROUP 2	4	32.7663	17.860	8.930								
PF11SS												
GROUP 1	4	23.5112	6.743	3.371	8.13	0.119	-1.31	6	0.238	-1.31	3.73	0.260
GROUP 2	4	36.8617	19.225	9.613								
PF12SS												
GROUP 1	4	20.8722	13.688	6.844	1.28	0.845	-0.42	6	0.689	-0.42	5.91	0.689
GROUP 2	4	25.2140	15.469	7.735								
SCHNOX												
GROUP 1	10	827.0000	13.199	4.174	1.44	0.593	1.53	18	0.144	1.53	17.43	0.145
GROUP 2	10	818.7000	10.985	3.474								
T2MMDIFF												
GROUP 1	10	-6.3611	3.745	1.184	1.25	0.741	2.32	18	0.032	2.32	17.77	0.032
GROUP 2	10	-10.0492	3.344	1.057								
D2MMDIFF												
GROUP 1	9	0.7903	2.387	0.796	2.32	0.231	0.68	17	0.505	0.67	13.59	0.516
GROUP 2	10	0.1654	1.566	0.495								
PWNPFORB PERCNT OF OTHER NP RATE THAT BLKS HAVE												
GROUP 1	9	86.6013	56.057	18.686	3.76	0.065?	1.01	17	0.326	0.98	11.69	0.347
GROUP 2	10	66.2419	28.919	9.145								

T - T E S T

GROUP 1 - SGRADEG3 EQ Lowest F Rate Schools: 1/3 (33%)
GROUP 2 - SGRADEG3 EQ Highest F Rate Schools: 1/3 (33%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	F VALUE	2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
POVRATE												
GROUP 1	13	62.6308	14.316	3.971	1.27	0.681	-1.39	24	0.176	-1.39	23.65	0.176
GROUP 2	13	70.0231	12.681	3.517								
T2NCEALL												
GROUP 1	13	43.0368	6.530	1.811	9.45	0.000	2.47	24	0.021	2.47	14.51	0.026
GROUP 2	13	38.3384	2.125	0.589								
T2NCEMIN												
GROUP 1	13	40.8195	6.043	1.676	8.13	0.001	2.42	24	0.023	2.42	14.91	0.028
GROUP 2	13	36.5150	2.120	0.588								
T2NCEWHT												
GROUP 1	13	48.0171	7.109	1.972	2.11	0.211	0.95	24	0.351	0.95	21.29	0.352
GROUP 2	13	45.7396	4.896	1.358								
D2NCEALL												
GROUP 1	12	-0.7616	4.508	1.301	2.08	0.225	0.14	23	0.889	0.14	19.42	0.891
GROUP 2	13	-0.9794	3.124	0.866								
D2NCEMIN												
GROUP 1	12	-0.5377	4.567	1.318	2.19	0.194	0.21	23	0.834	0.21	19.12	0.837
GROUP 2	13	-0.8666	3.088	0.856								
D2NCEWHT												
GROUP 1	12	-1.3526	4.717	1.362	1.74	0.353	-0.07	23	0.947	-0.07	20.47	0.948
GROUP 2	13	-1.2411	3.572	0.991								
PTEACHAB												
GROUP 1	12	6.0125	1.662	0.480	1.57	0.451	-0.62	23	0.542	-0.61	21.07	0.547
GROUP 2	13	6.3831	1.327	0.368								

T - T E S T

GROUP 1 - SGRADEG3 EQ
GROUP 2 - SGRADEG3 EQ

Lowest F Rate Schools: 1/3 (33%)
Highest F Rate Schools: 1/3 (33%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	POOLED VARIANCE ESTIMATE F VALUE	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	POOLED VARIANCE ESTIMATE DEGREES OF FREEDOM	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	SEPARATE VARIANCE ESTIMATE DEGREES OF FREEDOM	SEPARATE VARIANCE ESTIMATE 2-TAIL PROB.
PSCFENGL PERCENT OF ALL 80-81 ENGL.GRADES THAT= F												
GROUP 1	13	19.2450	7.899	2.191	1.38	0.583	-5.77	24	0.000	-5.77	23.40	0.000
GROUP 2	13	35.8228	6.716	1.863								
PSCFMATH PERCENT OF ALL 80-81 MATH GRADES THAT= F												
GROUP 1	13	26.5203	8.960	2.485	1.32	0.634	-5.64	24	0.000	-5.64	23.54	0.000
GROUP 2	13	45.0938	7.786	2.159								
PSCFSCI PERCNT OF ALL 8081 SCIENCE GRADES THAT=F												
GROUP 1	13	21.1003	8.627	2.393	1.05	0.932	-5.88	24	0.000	-5.88	23.98	0.000
GROUP 2	13	40.7600	8.413	2.333								
PSCFSS PERCENT OF ALL 80-81 S.S. GRADES THAT= F												
GROUP 1	13	25.0419	4.971	1.379	1.19	0.769	-6.03	24	0.000	-6.03	23.82	0.000
GROUP 2	13	37.3369	5.421	1.503								
PADA												
GROUP 1	13	62.1584	4.423	1.227	1.33	0.631	7.39	24	0.000	7.39	23.53	0.000
GROUP 2	13	70.1485	3.839	1.065								
PTOTSUS												
GROUP 1	13	62.8137	29.672	8.229	2.01	0.242	-1.81	24	0.083	-1.81	21.58	0.084
GROUP 2	13	88.6164	42.042	11.660								
PSUSR1												
GROUP 1	13	12.6233	8.416	2.334	2.18	0.193	-0.63	24	0.534	-0.63	21.11	0.535
GROUP 2	13	15.2479	12.414	3.443								
PSUSR2												
GROUP 1	13	13.5817	9.893	2.744	1.16	0.804	-0.22	24	0.828	-0.22	23.87	0.828
GROUP 2	13	14.4663	10.642	2.951								

T-TEST

GROUP 1 - SGRADEG3 EQ 1. Lowest F Rate Schools: 1/3 (33%)
GROUP 2 - SGRADEG3 EQ 3. Highest F RateSchools: 1/3 (33%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	POOLED VARIANCE ESTIMATE F VALUE	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	POOLED VARIANCE ESTIMATE DEGREES OF FREEDOM	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	SEPARATE VARIANCE ESTIMATE DEGREES OF FREEDOM	SEPARATE VARIANCE ESTIMATE 2-TAIL PROB.
PSUSR3												
GROUP 1	13	10.0807	8.873	2.461	1.18	0.784	-1.28	24	0.211	-1.28	23.84	0.211
GROUP 2	13	14.3810	8.184	2.270								
PSUSR4												
GROUP 1	13	4.8700	5.471	1.517	6.37	0.003	-2.42	24	0.024	-2.42	15.68	0.028
GROUP 2	13	14.8257	13.807	3.829								
PSUSP5												
GROUP 1	13	17.5144	8.206	2.276	1.82	0.315	-0.78	24	0.446	-0.78	22.14	0.447
GROUP 2	13	20.4750	11.060	3.067								
PTOTCP												
GROUP 1	11	19.5555	23.035	6.945	1.06	0.948	-0.40	18	0.695	-0.40	17.43	0.694
GROUP 2	9	23.6232	22.331	7.444								
PAMERNAT												
GROUP 1	13	0.3575	0.201	0.056	1.48	0.510	-0.02	24	0.984	-0.02	23.14	0.984
GROUP 2	13	0.3593	0.244	0.068								
PWHITES												
GROUP 1	13	31.0794	11.180	3.101	1.23	0.731	1.14	24	0.264	1.14	23.76	0.264
GROUP 2	13	26.2999	10.100	2.801								
PBLACKS												
GROUP 1	13	66.9524	15.656	4.342	2.09	0.215	-0.64	24	0.528	-0.64	21.34	0.527
GROUP 2	13	70.3476	10.823	3.002								
PASIANS												
GROUP 1	13	0.8772	1.607	0.446	3.75	0.030	0.90	24	0.379	0.90	17.98	0.382
GROUP 2	13	0.4273	0.830	0.230								

T - T E S T

GROUP 1 - SGRADEG3 EQ 1. Lowest F Rate Schools: 1/3 (33%)
GROUP 2 - SGRADEG3 EQ 3. Highest F Rate Schools: 1/3 (33%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	F VALUE	2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
PHISPAV												
GROUP 1	12	2.2152	2.193	0.633	1.85	0.319	-0.72	23	0.479	-0.73	21.96	0.474
GROUP 2	13	2.9744	2.980	0.827								
RBNPP RATIO OF BLACK NONPROMOTES TO PROMOTES												
GROUP 1	13	0.1313	0.121	0.034	4.72	0.012	-2.34	24	0.028	-2.34	16.86	0.032
GROUP 2	13	0.3196	0.264	0.073								
RONPP RATIO OF NONBLK NONPROMOTES TO PROMOTES												
GROUP 1	13	0.1691	0.101	0.028	13.51	0.000	-2.47	24	0.021	-2.47	13.77	0.027
GROUP 2	13	0.4339	0.372	0.103								
PTOTNP PERCENT OF TOTAL THAT ARE NONPROMOTES												
GROUP 1	13	11.2496	6.833	1.895	3.25	0.052	-2.93	24	0.007	-2.93	18.75	0.009
GROUP 2	13	22.6960	12.313	3.415								
PAGEADV PERCENT OF TOTAL THAT ARE AGE ADVANCMNTS												
GROUP 1	12	1.5453	2.766	0.799	5.09	0.016	0.86	21	0.400	0.89	15.44	0.390
GROUP 2	11	0.7660	1.227	0.370								
PATOTAL												
GROUP 1	13	14.0328	4.052	1.124	6.14	0.004	3.14	24	0.004	3.14	15.81	0.006
GROUP 2	13	10.2273	1.635	0.453								
PBTOTAL												
GROUP 1	13	18.6909	3.417	0.948	4.32	0.017	5.68	24	0.000	5.68	17.28	0.000
GROUP 2	13	12.7140	1.644	0.456								
PCTOTAL												
GROUP 1	13	22.3666	2.536	0.703	1.39	0.575	6.15	24	0.000	6.15	23.37	0.000
GROUP 2	13	16.7000	2.149	0.596								

T - T E S T

GROUP 1 - SGRADEG3 EQ 1. Lowest F Rate Schools: 1/3 (33%)
GROUP 2 - SGRADEG3 EQ 3. Highest F Rate Schools: 1/3 (33%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	POOLED VARIANCE ESTIMATE F VALUE	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	POOLED VARIANCE ESTIMATE DEGREES OF FREEDOM	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	SEPARATE VARIANCE ESTIMATE DEGREES OF FREEDOM	SEPARATE VARIANCE ESTIMATE 2-TAIL PROB.
POTOTAL												
GROUP 1	13	19.9751	3.050	0.846	2.21	0.184	2.48	24	0.020	2.48	21.01	0.022
GROUP 2	13	17.4427	2.051	0.569								
PFTOTAL												
GROUP 1	13	19.6324	5.281	1.465	1.15	0.816	-8.35	24	0.000	-8.35	23.89	0.000
GROUP 2	13	36.3568	4.931	1.368								
POTOTAL												
GROUP 1	13	5.3030	2.752	0.763	1.25	0.707	-1.23	24	0.232	-1.23	23.71	0.232
GROUP 2	13	6.5591	2.463	0.683								
PF7ENGL												
GROUP 1	8	16.0668	9.044	3.197	1.13	0.880	-4.13	14	0.001	-4.13	13.95	0.001
GROUP 2	8	35.3119	9.596	3.393								
PF8ENGL												
GROUP 1	8	18.4072	8.736	3.089	3.13	0.156	-3.22	14	0.006	-3.22	11.06	0.008
GROUP 2	8	29.8323	4.941	1.747								
PF9ENGL												
GROUP 1	7	23.8014	12.741	4.816	2.83	0.175	-2.20	14	0.045	-2.06	9.23	0.069
GROUP 2	9	35.0113	7.572	2.524								
PF10ENGL												
GROUP 1	3	26.2215	7.860	4.538	1.12	1.000	-3.47	6	0.013	-3.53	4.57	0.017
GROUP 2	5	46.9642	8.332	3.726								
PF11ENGL												
GROUP 1	5	18.0019	5.268	2.356	3.52	0.250	-3.99	8	0.004	-3.99	6.10	0.007
GROUP 2	5	37.9705	9.884	4.420								

T-TEST

GROUP 1 - SGRADEG3 EQ 1. Lowest F Rate Schools: 1/3 (33%)
GROUP 2 - SGRADEG3 EQ 3. Highest F Rate Schools: 1/3 (33%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	POOLED VARIANCE ESTIMATE F VALUE	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	POOLED VARIANCE ESTIMATE DEGREES OF FREEDOM	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	SEPARATE VARIANCE ESTIMATE DEGREES OF FREEDOM	SEPARATE VARIANCE ESTIMATE 2-TAIL PROB.
PF12ENGL												
GROUP 1	5	11.7066	4.897	2.190	3.91	0.215	-2.43	8	0.041	-2.43	5.92	0.051
GROUP 2	5	23.5069	9.688	4.332								
PF7MATH												
GROUP 1	8	26.5932	11.043	3.904	1.44	0.645	-3.22	14	0.006	-3.22	13.57	0.006
GROUP 2	8	46.2204	13.232	4.678								
PF8MATH												
GROUP 1	8	27.4945	6.949	2.457	1.46	0.629	-3.37	14	0.005	-3.37	13.52	0.005
GROUP 2	8	40.4936	8.403	2.971								
PF9MATH												
GROUP 1	7	26.7195	12.747	4.818	1.16	0.822	-2.66	14	0.018	-2.64	12.52	0.020
GROUP 2	9	43.1482	11.833	3.944								
PF10MATH												
GROUP 1	3	39.9583	5.412	3.125	1.03	1.000	-4.15	6	0.006	-4.17	4.39	0.014
GROUP 2	5	56.5104	5.491	2.456								
PF11MATH												
GROUP 1	5	21.9317	7.597	3.398	1.23	0.844	-2.04	8	0.075	-2.04	7.91	0.075
GROUP 2	5	32.3110	8.435	3.772								
PF12MATH												
GROUP 1	5	19.1467	12.808	5.728	2.88	0.330	-0.09	8	0.929	-0.09	6.43	0.929
GROUP 2	5	19.7614	7.550	3.376								
PF7SCI												
GROUP 1	8	20.2489	8.513	3.010	1.31	0.728	-4.43	14	0.001	-4.43	13.75	0.001
GROUP 2	8	40.5277	9.756	3.449								

T - T E S T

GROUP 1 - SGRADEG3 EQ 1. Lowest F Rate Schools: 1/3 (33%)
GROUP 2 - SGRADEG3 EQ 3. Highest F Rate Schools: 1/3 (33%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	POOLED VARIANCE ESTIMATE F VALUE	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	POOLED VARIANCE ESTIMATE DEGREES OF FREEDOM	POOLED VARIANCE ESTIMATE 2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	SEPARATE VARIANCE ESTIMATE DEGREES OF FREEDOM	SEPARATE VARIANCE ESTIMATE 2-TAIL PROB.
PF8SCI												
GROUP 1	8	23.2077	14.555	5.146	1.98	0.386	-2.51	14	0.025	-2.51	12.63	0.026
GROUP 2	8	39.0647	10.334	3.654								
PF9SCI												
GROUP 1	7	17.5575	10.783	4.076	1.38	0.658	-2.92	14	0.011	-2.86	11.86	0.014
GROUP 2	9	32.1446	9.193	3.064								
PF10SCI												
GROUP 1	3	29.5494	11.660	6.732	3.40	0.274	-3.81	6	0.009	-3.23	2.73	0.048
GROUP 2	5	53.1639	6.321	2.827								
PF11SCI												
GROUP 1	5	19.4578	7.233	3.235	2.60	0.377	-1.42	8	0.192	-1.42	6.58	0.198
GROUP 2	5	28.1961	11.665	5.217								
PF12SCI												
GROUP 1	4	10.0529	12.543	6.272	1.07	0.911	-0.93	7	0.385	-0.92	6.46	0.392
GROUP 2	5	17.6936	12.122	5.421								
PF7SS												
GROUP 1	8	22.5553	6.142	2.172	1.43	0.650	-3.14	14	0.007	-3.14	13.58	0.007
GROUP 2	8	33.1767	7.338	2.594								
PF8SS												
GROUP 1	8	24.3994	7.231	2.556	1.67	0.515	-2.66	14	0.019	-2.66	13.17	0.020
GROUP 2	8	35.5267	9.346	3.304								
PF9SS												
GROUP 1	7	25.0568	6.221	2.351	1.51	0.631	-3.56	14	0.003	-3.66	13.95	0.003
GROUP 2	9	40.7467	7.653	2.551								

T - T E S T

GROUP 1 - SGRADEG3 EQ 1. Lowest F Rate Schools: 1/3 (33%)
GROUP 2 - SGRADEG3 EQ 3. Highest F Rate Schools: 1/3 (33%)

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	F VALUE	2-TAIL PROB.	POOLED VARIANCE ESTIMATE T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.	SEPARATE VARIANCE ESTIMATE T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
PF10SS												
GROUP 1	2	30.7903	7.179	5.076	4.65	0.666	-0.19	5	0.857	-0.26	4.39	0.805
GROUP 2	5	33.0506	15.480	6.923								
PF11SS												
GROUP 1	5	26.0713	8.177	3.657	4.20	0.194	-1.39	8	0.201	-1.39	5.80	0.213
GROUP 2	5	37.6852	16.751	7.491								
PF12SS												
GROUP 1	5	21.1658	11.872	5.309	1.28	0.818	-0.46	8	0.654	-0.46	7.88	0.654
GROUP 2	5	24.8895	13.417	6.000								
SCHNOX												
GROUP 1	13	826.0000	13.354	3.704	1.41	0.564	1.21	24	0.239	1.21	23.33	0.240
GROUP 2	13	820.1538	11.261	3.123								
T2MWDIFF												
GROUP 1	13	-7.1975	3.828	1.062	1.33	0.633	1.25	24	0.223	1.25	23.54	0.223
GROUP 2	13	-9.2245	4.408	1.222								
D2MWDIFF												
GROUP 1	12	0.8149	2.369	0.684	2.50	0.131	0.56	23	0.581	0.55	18.34	0.589
GROUP 2	13	0.3745	1.500	0.416								
PWNPFORB PERCNT OF OTHER NP RATE THAT BLKS HAVE												
GROUP 1	12	66.9960	67.067	19.366	2.42	0.144	0.45	23	0.655	0.44	18.51	0.661
GROUP 2	13	76.8719	43.090	11.951								

APPENDIX B

T-TEST

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	2-TAIL CORR.	2-TAIL PROB.	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
PATOTAL		12.2008	3.082	0.494								
	39				-3.2864	2.217	0.355	0.767	0.000	-9.26	38	0.000
PBTOTAL		15.4872	3.362	0.538								
PATOTAL		12.2008	3.082	0.494								
	39				-7.1616	3.760	0.602	0.283	0.080	-11.89	38	0.000
PCTOTAL		19.3624	3.198	0.512								
PATOTAL		12.2008	3.082	0.494								
	39				-6.5556	4.311	0.690	-0.216	0.186	-9.50	38	0.000
PDTOTAL		18.7563	2.421	0.388								
PATOTAL		12.2008	3.082	0.494								
	39				-16.1100	10.442	1.672	-0.651	0.000	-9.63	38	0.000
PETOTAL		28.3108	8.169	1.308								
PATOTAL		12.2008	3.082	0.494								
	39				6.3183	4.565	0.731	-0.275	0.090	8.64	38	0.000
POTOTAL		5.8824	2.626	0.420								
PBTOTAL		15.4872	3.362	0.538								
	39				-3.8752	2.651	0.424	0.674	0.000	-9.13	38	0.000
PCTOTAL		19.3624	3.198	0.512								
PBTOTAL		15.4872	3.362	0.538								
	39				-3.2692	3.755	0.601	0.189	0.250	-5.44	38	0.000
PDTOTAL		18.7563	2.421	0.388								

T - T E S T

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	2-TAIL CORR.	2-TAIL PROB.	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
PBTOTAL		15.4872	3.362	0.538								
	39				-12.8236	11.283	1.807	-0.897	0.000	-7.10	38	0.000
PFTOTAL		28.3108	8.169	1.308								
PBTOTAL		15.4872	3.362	0.538								
	39				9.6047	5.000	0.801	-0.385	0.015	12.00	38	0.000
POTOTAL		5.8824	2.626	0.420								
PCTOTAL		19.3624	3.198	0.512								
	39				0.6061	2.221	0.356	0.720	0.000	1.70	38	0.097
POTOTAL		18.7563	2.421	0.388								
PCTOTAL		19.3624	3.198	0.512								
	39				-8.9484	10.957	1.754	-0.825	0.000	-5.10	38	0.000
PFTOTAL		28.3108	8.169	1.308								
PCTOTAL		19.3624	3.198	0.512								
	39				13.4800	5.072	0.812	-0.512	0.001	16.60	38	0.000
POTOTAL		5.8824	2.626	0.420								
POTOTAL		18.7563	2.421	0.388								
	39				-9.5545	9.547	1.529	-0.469	0.003	-6.25	38	0.000
PFTOTAL		28.3108	8.169	1.308								
POTOTAL		18.7563	2.421	0.388								
	39				12.8739	4.116	0.659	-0.329	0.041	19.53	38	0.000
POTOTAL		5.8824	2.626	0.420								
PFTOTAL		28.3108	8.169	1.308								
	39				22.4284	7.961	1.275	0.239	0.143	17.59	38	0.000
PCTOTAL		5.8824	2.626	0.420								

APPENDIX C

T - T E S T

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	2-TAIL CORR.	2-TAIL PROB.	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
PSCFENGL	PERCENT OF ALL 80-81 ENGL.GRADES THAT= F											
	39	28.1477	9.321	1.493								
		35.8704	10.859	1.739	-7.7227	8.182	1.310	0.681	0.000	-5.89	38	0.000
PSCFMATH	PERCENT OF ALL 80-81 MATH GRADES THAT= F											
PSCFENGL	PERCENT OF ALL 80-81 ENGL.GRADES THAT= F											
	39	28.1477	9.321	1.493								
		31.5582	10.977	1.758	-3.4105	6.425	1.029	0.812	0.000	-3.32	38	0.002
PSCFSCI	PERCNT OF ALL 8081 SCIENCE GRADES THAT=F											
PSCFENGL	PERCENT OF ALL 80-81 ENGL.GRADES THAT= F											
	39	28.1477	9.321	1.493								
		30.4240	7.520	1.204	-2.2763	5.772	0.924	0.786	0.000	-2.46	38	0.018
PSCFSS	PERCENT OF ALL 80-81 S.S. GRADES THAT= F											
PSCFENGL	PERCENT OF ALL 80-81 ENGL.GRADES THAT= F											
	39	28.1477	9.321	1.493								
		28.3108	8.169	1.308	-0.1631	4.271	0.684	0.889	0.000	-0.24	38	0.813
PFTOTAL												
PSCFMATH	PERCENT OF ALL 80-81 MATH GRADES THAT= F											
	39	35.8704	10.859	1.739								
		31.5582	10.977	1.758	4.3122	7.534	1.206	0.762	0.000	3.57	38	0.001
PSCFSCI	PERCNT OF ALL 8081 SCIENCE GRADES THAT=F											
PSCFMATH	PERCENT OF ALL 80-81 MATH GRADES THAT= F											
	39	35.8704	10.859	1.739								
		30.4240	7.520	1.204	5.4464	9.034	1.447	0.569	0.000	3.76	38	0.001
PSCFSS	PERCENT OF ALL 80-81 S.S. GRADES THAT= F											
PSCFMATH	PERCENT OF ALL 80-81 MATH GRADES THAT= F											
	39	35.8704	10.859	1.739								
		28.3108	8.169	1.308	7.5596	6.288	1.007	0.818	0.000	7.51	38	0.000
PFTOTAL												

- T - T E S T -

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	2-TAIL CORR.	2-TAIL PROB.	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
PSCFSCI	PERCNT OF ALL 8081 SCIENCE GRADES THAT=F											
	39	31.5582	10.977	1.758								
		30.4240	7.520	1.204	1.1342	7.977	1.277	0.687	0.000	0.89	38	0.380
PSCFSS	PERCENT OF ALL 80-81 S.S. GRADES THAT= F											
PSCFSCI	PERCNT OF ALL 8081 SCIENCE GRADES THAT=F											
	39	31.5582	10.977	1.758								
		28.3108	8.169	1.308	3.2474	5.104	0.817	0.899	0.000	3.97	38	0.000
PFTOTAL												
PSCFSS	PERCENT OF ALL 80-81 S.S. GRADES THAT= F											
	39	30.4240	7.520	1.204								
		28.3108	8.169	1.308	2.1132	4.900	0.785	0.808	0.000	2.69	38	0.010
PFTOTAL												

APPENDIX D

APPENDIX D

ANALYSIS OF VARIANCE

VARIABLE	CODE	VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
SCHLEV1	4	Junior High Schools	636.4778	26.5199	8.5843	1694.8636	(24)
SCHLEV1	5	Senior High Schools	461.2819	30.7521	10.1468	1441.3976	(15)
	WITHIN GROUPS TOTAL		1097.7597	28.1477	9.2067	3136.2612	(39)

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG.
BETWEEN GROUPS	165.339	1	165.339	1.951	0.1708
WITHIN GROUPS	3136.261	37	84.764		

ETA = 0.2238 ETA SQUARED = 0.0501

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COMPUTER PROGRAM AND DATA ANALYSES BY JIM ZAFIRAU, PH.D.
CRITERION VARIABLE PSCFMATH

ANALYSIS OF VARIANCE

VARIABLE	CODE	VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
SCHLEV1	4	Junior High Schools	825.6253	34.4011	9.7389	2181.4439	(24)
SCHLEV1	5	Senior High Schools	573.3208	38.2214	12.4357	2165.0695	(15)
		WITHIN GROUPS TOTAL	1398.9460	35.8704	10.8385	4346.5133	(39)

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG.
BETWEEN GROUPS	134.722	1	134.722	1.147	0.2911
WITHIN GROUPS	4346.513	37	117.473		

ETA = 0.1734 ETA SQUARED = 0.0301

ANALYSIS OF VARIANCE

VARIABLE	CODE	VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
SCHLEV1	4	Junior High Schools	725.0848	30.2119	10.3984	2486.9379	(24)
SCHLEV1	5	Senior High Schools	505.6840	33.7123	11.8879	1978.5152	(15)
	WITHIN GROUPS TOTAL		1230.7688	31.5582	10.9858	4465.4531	(39)

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG.
BETWEEN GROUPS	113.103	1	113.103	0.937	0.3393
WITHIN GROUPS	4465.453	37	120.688		

ETA = 0.1572 ETA SQUARED = 0.0247

ANALYSIS OF VARIANCE

VARIABLE	CODE	VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
SCHLEV1	4	Junior High Schools	714.4710	29.7696	7.3259	1234.3920	(24)
SCHLEV1	5	Senior High Schools	472.0648	31.4710	7.9633	887.7934	(15)
	WITHIN GROUPS TOTAL		1186.5359	30.4240	7.5734	2122.1854	(39)

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG.
BETWEEN GROUPS	26.720	1	26.720	0.466	0.4992
WITHIN GROUPS	2122.185	37	57.356		

ETA = 0.1115 ETA SQUARED = 0.0124

ANALYSIS OF VARIANCE

VARIABLE	CODE	VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
SCHLEV1	4	Junior High Schools	286.2363	11.9265	4.4817	461.9721	(24)
SCHLEV1	5	Senior High Schools	386.6887	25.7792	12.8540	2313.1491	(15)
		WITHIN GROUPS TOTAL	672.9250	17.2545	8.6604	2775.1211	(39)

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG.
BETWEEN GROUPS	1771.369	1	1771.369	23.617	0.0000
WITHIN GROUPS	2775.121	37	75.003		

ETA = 0.6242 ETA SQUARED = 0.3896

APPENDIX E

APPENDIX E

T - T E S T

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	2-TAIL CORR.	2-TAIL PROB.	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
PFTOT7	24	29.7855	9.463	1.932	-1.0209	6.371	1.301	0.743	0.000	-0.78	23	0.440
PFTOT8		30.8064	7.750	1.582								
PFTOT7	23	29.8945	9.660	2.014	-0.4729	6.124	1.277	0.785	0.000	-0.37	22	0.715
PFTOT9		30.3674	8.887	1.853								
PFTOT8	23	31.5078	7.103	1.481	1.1404	6.678	1.392	0.672	0.000	0.82	22	0.422
PFTOT9		30.3674	8.887	1.853								
PFTOT10	13	42.0151	9.761	2.707	10.7867	5.803	1.610	0.808	0.001	6.70	12	0.000
PFTOT11		31.2283	8.697	2.412								
PFTOT10	13	42.0151	9.761	2.707	21.5346	8.497	2.357	0.527	0.064	9.14	12	0.000
PFTOT12		20.4804	6.971	1.933								
PFTOT11	15	29.9486	8.744	2.258	10.4565	8.164	2.108	0.479	0.071	4.96	14	0.000
PFTOT12		19.4921	6.961	1.797								

APPENDIX F

APPENDIX F

VARIABLE	CASES	MEAN	STD DEV
PFTOTAL	39	28.3108	8.1690
PTOTNP	39	17.2545	10.9382
PTEACHAB	38	6.1713	1.2827
POVRATE	39	68.3461	12.7045
T2NCEALL	39	40.3456	4.6268
T2NCEMIN	39	38.3905	4.2982
T2NCEWHT	39	46.3381	5.3253
D2NCEALL	38	-0.9933	3.4539
D2NCEMIN	38	-0.8379	3.5387
D2NCEWHT	38	-1.4727	3.6991
PSCFENGL	39	26.1477	9.3212
PSCFMATH	39	35.3704	10.8554
PSCFSCI	39	31.5582	10.9787
PSCFSS	39	30.4240	7.5200
PADA	39	75.7617	6.5135
PTOTSUS	39	72.5970	34.9252
PSUSR1	39	13.6953	10.0311
PSUSR2	39	13.7052	9.4348
PSUSR3	39	12.8597	9.7670
PSUSR4	39	7.8922	9.8753
PSUSP5	39	17.9888	10.0358
PTOTCP	30	22.7442	23.3488
PAMERNAT	39	0.3345	0.2384
PWHITES	39	28.5202	10.0500
PBLACKS	39	67.8429	13.3611
PASIANS	39	0.6498	1.1727
PHISPAN	38	3.5932	4.8010
RBNPP	39	0.2235	0.2037
RONPP	39	0.3110	0.2876
PAGEADV	36	1.2486	2.1962
PATOTAL	39	12.2008	3.0822
PBTOTAL	39	15.4872	3.3624
PCTOTAL	39	19.3624	3.1978
PDTOTAL	39	18.7563	2.4214
PETOTAL	39	5.8824	2.6259
PF7ENGL	24	25.2786	11.2358
PF8ENGL	24	26.6074	8.4632
PF9ENGL	24	29.0268	9.3275
PF10ENGL	13	39.6266	10.6950
PF11ENGL	15	28.5576	11.1123
PF12ENGL	15	17.8554	8.5521
PF7MATH	24	34.4099	13.4056
PF8MATH	24	35.4812	8.8788
PF9MATH	24	34.2137	13.0868
PF10MATH	13	49.1799	9.4173
PF11MATH	15	28.0217	8.4675
PF12MATH	15	20.0996	8.1542
PF7SCI	24	31.5798	12.3460
PF8SCI	24	31.3226	12.2946
PF9SCI	24	24.0818	10.3478
PF10SCI	13	42.9613	11.7329
PF11SCI	15	25.7800	9.1777
PF12SCI	14	12.1730	11.8518

VARIABLE	CASES	MEAN	STD DEV
PF7SS	24	27.8462	8.2287
PF8SS	24	29.6612	8.7537
PF9SS	24	32.5191	9.6664
PF10SS	12	33.0596	10.6502
PF11SS	15	32.7645	11.6878
PF12SS	15	20.9917	10.3611
SCHNOX	39	822.8718	12.7159
T2MWDIFF	39	-7.9476	3.5935
D2MWDIFF	38	0.6348	2.0472

PEARSON CORRELATION COEFFICIENTS

VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR	
PFTOTAL	0.1469	PFTOTAL	0.2703	PFTOTAL	-0.5685	PFTOTAL	-0.5519	PFTOTAL	-0.2690	PFTOTAL	-0.0753
WITH	N(38)	WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(38)
PTEACHAB	SIG .379	PDVRATE	SIG .096	T2NCEALL	SIG .000	T2NCEMIN	SIG .000	T2NCEWHT	SIG .098	D2NCEALL	SIG .653
PFTOTAL	-0.0683	PFTOTAL	-0.0883	PFTOTAL	0.8889	PFTOTAL	0.8179	PFTOTAL	0.8987	PFTOTAL	0.8080
WITH	N(38)	WITH	N(38)	WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(39)
D2NCEMIN	SIG .684	D2NCEWHT	SIG .598	PSCFENGL	SIG .000	PSCFMATH	SIG .000	PSCFSCI	SIG .000	PSCFSS	SIG .000
PFTOTAL	-0.8990	PFTOTAL	0.3573	PFTOTAL	0.1344	PFTOTAL	0.0087	PFTOTAL	0.2842	PFTOTAL	0.4801
WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(39)
PADA	SIG .000	PTOTSUS	SIG .026	PSUSR1	SIG .414	PSUSR2	SIG .958	PSUSR3	SIG .080	PSUSR4	SIG .002
PFTOTAL	0.1610	PFTOTAL	-0.0136	PFTOTAL	0.0045	PFTOTAL	-0.3218	PFTOTAL	0.1122	PFTOTAL	-0.1313
WITH	N(39)	WITH	N(30)	WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(39)
PSUSP5	SIG .328	PTOTCP	SIG .943	PAMERNAT	SIG .978	PWHITES	SIG .046	PBLACKS	SIG .497	PASIANS	SIG .426
PFTOTAL	0.1677	PFTOTAL	0.5195	PFTOTAL	0.5598	PFTOTAL	0.5953	PFTOTAL	-0.1237	PFTOTAL	-0.6514
WITH	N(38)	WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(36)	WITH	N(39)
PHISPAN	SIG .314	RENPP	SIG .001	RONPP	SIG .000	PTOTNP	SIG .000	PAGEADV	SIG .472	PATOTAL	SIG .000
PFTOTAL	-0.8970	PFTOTAL	-0.8248	PFTOTAL	-0.4687	PFTOTAL	1.0000	PFTOTAL	0.2389	PFTOTAL	0.8114
WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(24)
PBTOTAL	SIG .000	PCTOTAL	SIG .000	PDTOTAL	SIG .003	PFTOTAL	SIG .000	POTOTAL	SIG .143	PF7ENGL	SIG .000
PFTOTAL	0.7032	PFTOTAL	0.6914	PFTOTAL	0.9058	PFTOTAL	0.7894	PFTOTAL	0.7962	PFTOTAL	0.7257
WITH	N(24)	WITH	N(24)	WITH	N(13)	WITH	N(15)	WITH	N(15)	WITH	N(24)
PF8ENGL	SIG .000	PF9ENGL	SIG .000	PF10ENGL	SIG .000	PF11ENGL	SIG .000	PF12ENGL	SIG .000	PF7MATH	SIG .000
PFTOTAL	0.8018	PFTOTAL	0.7037	PFTOTAL	0.6171	PFTOTAL	0.4748	PFTOTAL	0.0279	PFTOTAL	0.7727
WITH	N(24)	WITH	N(24)	WITH	N(13)	WITH	N(15)	WITH	N(15)	WITH	N(24)
PF8MATH	SIG .000	PF9MATH	SIG .000	PF10MATH	SIG .025	PF11MATH	SIG .074	PF12MATH	SIG .921	PF7SCI	SIG .000
PFTOTAL	0.7382	PFTOTAL	0.7547	PFTOTAL	0.8921	PFTOTAL	0.5684	PFTOTAL	0.3267	PFTOTAL	0.5686
WITH	N(24)	WITH	N(24)	WITH	N(13)	WITH	N(15)	WITH	N(14)	WITH	N(24)
PF8SCI	SIG .000	PF9SCI	SIG .000	PF10SCI	SIG .000	PF11SCI	SIG .027	PF12SCI	SIG .254	PF7SS	SIG .004

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PEARSON CORRELATION COEFFICIENTS

VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR	
PFTOTAL	0.6088	PFTOTAL	0.7228	PFTOTAL	0.3672	PFTOTAL	0.6317	PFTOTAL	0.1083	PFTOTAL	-0.2957
WITH	N(24)	WITH	N(24)	WITH	N(12)	WITH	N(15)	WITH	N(15)	WITH	N(39)
PF8SS	SIG .002	PF9SS	SIG .000	PF10SS	SIG .240	PF11SS	SIG .012	PF12SS	SIG .701	SCHNOX	SIG .068
PFTOTAL	-0.2615	PFTOTAL	0.0415	PTOTNP	0.0497	PTOTNP	-0.3007	PTOTNP	-0.2091	PTOTNP	-0.2527
WITH	N(39)	WITH	N(38)	WITH	N(38)	WITH	N(39)	WITH	N(39)	WITH	N(39)
T2MWDIFF	SIG .108	D2MWDIFF	SIG .804	PTEACHAB	SIG .767	POVRATE	SIG .063	T2NCEALL	SIG .201	T2NCEMIN	SIG .121
PTOTNP	0.1046	PTOTNP	0.3815	PTOTNP	0.3951	PTOTNP	0.3192	PTOTNP	0.6802	PTOTNP	0.5435
WITH	N(39)	WITH	N(38)	WITH	N(38)	WITH	N(38)	WITH	N(39)	WITH	N(39)
T2NCEWHT	SIG .526	D2NCEALL	SIG .018	D2NCEMIN	SIG .014	D2NCEWHT	SIG .051	PSCFENGL	SIG .000	PSCFMATH	SIG .000
PTOTNP	0.6373	PTOTNP	0.5519	PTOTNP	-0.6294	PTOTNP	0.0135	PTOTNP	0.1361	PTOTNP	-0.4036
WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(39)
PSCFSCI	SIG .000	PSCFSS	SIG .000	PADA	SIG .000	PTOTSUS	SIG .935	PSUSR1	SIG .409	PSUSR2	SIG .011
PTOTNP	0.2775	PTOTNP	0.2394	PTOTNP	-0.3014	PTOTNP	-0.2035	PTOTNP	-0.0651	PTOTNP	-0.2973
WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(30)	WITH	N(39)	WITH	N(39)
PSUSR3	SIG .087	PSUSR4	SIG .142	PSUSP5	SIG .062	PTOTCP	SIG .281	PAMERNAT	SIG .694	PWHITES	SIG .066
PTOTNP	0.2607	PTOTNP	-0.0007	PTOTNP	0.0219	PTOTNP	0.9651	PTOTNP	0.8668	PTOTNP	1.0000
WITH	N(39)	WITH	N(39)	WITH	N(38)	WITH	N(39)	WITH	N(39)	WITH	N(39)
PBLACKS	SIG .109	PASIANS	SIG .997	PHISPAN	SIG .896	RBNPP	SIG .000	RONPP	SIG .000	PTOTNP	SIG .000
PTOTNP	-0.2419	PTOTNP	-0.5442	PTOTNP	-0.6279	PTOTNP	-0.6190	PTOTNP	-0.2567	PTOTNP	0.5953
WITH	N(36)	WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(39)	WITH	N(39)
PAGEADV	SIG .155	PATOTAL	SIG .000	PBTOTAL	SIG .000	PCTOTAL	SIG .000	PDTOTAL	SIG .115	PFTOTAL	SIG .000
PTOTNP	0.5813	PTOTNP	0.5498	PTOTNP	0.3261	PTOTNP	0.4786	PTOTNP	0.9347	PTOTNP	0.7743
WITH	N(39)	WITH	N(24)	WITH	N(24)	WITH	N(24)	WITH	N(13)	WITH	N(15)
PUTOTAL	SIG .000	PF7ENGL	SIG .005	PF8ENGL	SIG .120	PF9ENGL	SIG .018	PF10ENGL	SIG .000	PF11ENGL	SIG .001
PTOTNP	0.7429	PTOTNP	0.5899	PTOTNP	0.3858	PTOTNP	0.4615	PTOTNP	0.4818	PTOTNP	0.4493
WITH	N(15)	WITH	N(24)	WITH	N(24)	WITH	N(24)	WITH	N(13)	WITH	N(15)
PF12ENGL	SIG .002	PF7MATH	SIG .002	PF8MATH	SIG .063	PF9MATH	SIG .023	PF10MATH	SIG .096	PF11MATH	SIG .093

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PEARSON CORRELATION COEFFICIENTS

VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR	
PTOTNP	-0.0523	PTOTNP	0.4849	PTOTNP	0.3387	PTOTNP	0.4525	PTOTNP	0.7744	PTOTNP	0.7736
WITH	N(15)	WITH	N(24)	WITH	N(24)	WITH	N(24)	WITH	N(13)	WITH	N(15)
PF12MATH	SIG .853	PF7SCI	SIG .016	PF8SCI	SIG .105	PF9SCI	SIG .026	PF10SCI	SIG .002	PF11SCI	SIG .001
PTOTNP	0.1818	PTOTNP	0.2938	PTOTNP	0.1406	PTOTNP	0.3734	PTOTNP	0.7876	PTOTNP	0.8008
WITH	N(14)	WITH	N(24)	WITH	N(24)	WITH	N(24)	WITH	N(12)	WITH	N(15)
PF12SCI	SIG .534	PF7SS	SIG .163	PF8SS	SIG .512	PF9SS	SIG .072	PF10SS	SIG .002	PF11SS	SIG .000
PTOTNP	0.1755	PTOTNP	-0.7141	PTOTNP	-0.4573	PTOTNP	0.1062				
WITH	N(15)	WITH	N(39)	WITH	N(39)	WITH	N(38)				
PF12SS	SIG .532	SCHNOX	SIG .000	T2MWDIFF	SIG .003	D2MWDIFF	SIG .526				

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